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FILE 'USPAT' ENTERED AT 08:34:59 ON 19 APR 96
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  *             W E L C O M E   T O   T H E                     *
  *          U. S.   P A T E N T   T E X T   F I L E            *
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
=> s carbon(2a)(flux or flow)

        355990 CARBON
         65493 FLUX
        681231 FLOW

L1        1989 CARBON(2A)(FLUX OR FLOW)
=> s l1(6a)(modif? or alter? or increas?)

       1044142 MODIF?
        945928 ALTER?
       1117557 INCREAS?

L2          72 L1(6A)(MODIF? OR ALTER? OR INCREAS?)
=> s (phosphoenol pyruvate or pep)(4a)(suppl#### or availab?)
           106 PHOSPHOENOL
          3120 PYRUVATE
            99 PHOSPHOENOL PYRUVATE
                 (PHOSPHOENOL(W)PYRUVATE)
          1140 PEP

        737251 SUPPL####
        652026 AVAILAB?

L3          69 (PHOSPHOENOL PYRUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)
=> s (phosphoenolpyruvate or phospho enol pyruvate)(4a)(suppl#### or availab?)
           169 PHOSPHOENOLPYRUVATE
          2119 PHOSPHO
          4105 ENOL
          3120 PYRUVATE
            15 PHOSPHO ENOL PYRUVATE
                 (PHOSPHO(W)ENOL(W)PYRUVATE)

        737251 SUPPL####
        652026 AVAILAB?

L4           3 (PHOSPHOENOLPYRUVATE OR PHOSPHO ENOL PYRUVATE)(4A)(SUPPL###
# O
               R AVAILAB?)
=> s l2(p)(l3 or l4
UNMATCHED LEFT PARENTHESIS 'P)(L3'
=> s l2(p)(l3 or l4)
L5           0 L2(P)(L3 OR L4)
=> s l2 and (l3 or l4)
L6           0 L2 AND (L3 OR L4)
=> s phosphotransferase# or phosho transferase#
           502 PHOSPHOTRANSFERASE#
             4 PHOSHO
          2666 TRANSFERASE#
             0 PHOSHO TRANSFERASE#
                 (PHOSHO(W)TRANSFERASE#)
L7         502 PHOSPHOTRANSFERASE# OR PHOSHO TRANSFERASE#
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=> s phosphotransferase# or phospho transferase#
           502 PHOSPHOTRANSFERASE#
          2119 PHOSPHO
          2666 TRANSFERASE#
             8 PHOSPHO TRANSFERASE#
                 (PHOSPHO(W)TRANSFERASE#)
L8         509 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#
=> s (l2 or l3 or l4)(p)l8
L9           0 (L2 OR L3 OR L4)(P)L8
=> s (l2 or l3 or l4) and l8
L10          0 (L2 OR L3 OR L4) AND L8
=> s (l2 or l3 or l4)
L11        144 (L2 OR L3 OR L4)
=> s l11 and (aromatic or shikimate)
        151758 AROMATIC
            38 SHIKIMATE
L12         53 L11 AND (AROMATIC OR SHIKIMATE)
=> s l11(p)(aromatic or shikimate)
        151758 AROMATIC
            38 SHIKIMATE
L13          3 L11(P)(AROMATIC OR SHIKIMATE)
=> d cit,ab,kwic 1-
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1. 5,487,987, Jan. 30, 1996, Synthesis of adipic acid from biomass-derived carbon sources; John W. Frost, et al., 435/142, 172.3, 175, 189, 232, 252.3, 252.33, 320.1; 536/23.2, 23.7; 935/27, 60, 72 [IMAGE AVAILABLE]

US PAT NO: 5,487,987 [IMAGE AVAILABLE] L13: 1 of 3

ABSTRACT:

A method is provided for producing adipic acid. The method comprises the steps of culturing a cell transformant capable of converting a carbon source to catechol for a period of time sufficient to convert said carbon source to catechol, biocatalytically converting the catechol to cis, cis-muconic acid using catechol 1,2-dioxygenase, and hydrogenating the cis, cis-muconic acid to produce adipic acid.
Also provided is a heterologous transformant of the host cell having an endangeous common pathway of aromatic amino acid biosynthesis. The heterologous transformant is characterized by the constitutive expression of structural genes encoding 3-dehydroshikimate dehydratase, protocatechuate decarboxylase, and catechol 1,2-dioxygenase.

DETDESC:

DETD(4)

Host . . . use in the present invention are members of those genera capable of being utilized for industrial biosynthetic production of desired **aromatic** compounds. In particular, suitable host cells have an endogenous common pathway of **aromatic** amino acid biosynthesis. Common **aromatic** pathways are endogenous in a wide variety of microorganisms, and are used for the production of various **aromatic** compounds. As illustrated in FIG. 1, the common **aromatic** pathway leads from E4P and **PEP** (the **availability** of E4P being increased by the pentose phosphate pathway enzyme transketolase, encoded by the tkt gene) to chorismic acid with. . . intermediates in the pathway. The intermediates in the pathway include 3-deoxy-D-arabino-heptulosonic acid

7-phosphate (DAHP), 3-dehydroquinate (DHQ), 3-dehydroshikimate (DHS), shikimic acid, **shikimate** 3-phosphate (S3P), and 5-enolpyruvoylshikimate-3-phosphate (EPSP). The enzymes in the common pathway, and their respective genes, include DAHP synthase (aroF), DHQ synthase (aroB), DHQ dehydratase (aroD), **shikimate** dehydrogenase (aroE), **shikimate** kinase (aroL, aroK), EPSP synthase (aroA) and chorismate synthase (aroC).

2. 5,187,071, Feb. 16, 1993, Method for the selective control of weeds, pests, and microbes; Randy S. Fischer, et al., 435/32; 424/9.2; 435/29; 514/76, 119 [IMAGE AVAILABLE]

US PAT NO: 5,187,071 [IMAGE AVAILABLE] L13: 2 of 3

ABSTRACT:
A novel means for identifying selective control agents for weeds, pests, and microbes is provided. Novel compositions for the selective control of weeds, pests, and microbes are also provided. The critical elements in the novel method of the invention relate to the systematic and specific identification of points of diversity which exist between the target organism and the host or other non-target organisms. More specifically the process involves identifying a difference which exists between the metabolic pathway of a microbial or plant target organism and a non-target host specie and then preparing a control agent which perturbs the metabolic pathway of the target without significantly perturbing the metabolic pathway of the host.

DETDESC:

DETD(92)

Even at microgram levels N-(phosphonomethyl) glycine produces a drain upon intracellular **supplies** of **PEP** owing to utilization of PEP in massive formation of **shikimate**-3-phosphate that accumulates behind the blocked enzyme.

3. 5,168,056, Dec. 1, 1992, Enhanced production of common aromatic pathway compounds; John W. Frost, 435/172.3, 183, 193, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,168,056 [IMAGE AVAILABLE] L13: 3 of 3

ABSTRACT:
A genetic element comprising an expression vector and a gene coding for transketolase is utilized to enhance diversion of carbon resources into the common aromatic pathway.

SUMMARY:

BSUM(5)

The present invention provides for the enhanced commitment of cellular carbon sources to enter and flow through the common **aromatic** pathway by transferring into host cells genetic elements comprising a tkt gene and optionally other genetic elements encoding enzymes that direct carbon flow into or through the common **aromatic** pathway. The genetic elements can be in the form of extrachromosomal plasmids, cosmids, phages, or other replicons capable of carrying. . . transketolase,

which catalyzes the conversion of carbon source D-fructose 6-phosphate to D-erythrose 4-phosphate, a necessary precursor compound for the common **aromatic** pathway. Overproduction of transketolase in tkt transformed cells has been found to provide an **increased** **flow** of **carbon** resources into the common **aromatic** pathway relative to carbon resource utilization in whole cells that do not harbor such genetic elements.

DETDESC:

DETD(22)

In preferred embodiments, the present invention is a method for **increasing** **carbon** **flow** into the common **aromatic** pathway of a host cell. **Increasing** **carbon** **flow** requires the step of transforming the host cell with recombinant DNA containing a tkt gene so that transketolase is expressed at enhanced levels relative to wild type host cells. Co-overexpression of other enzymes of the common **aromatic** pathway require the additional step of transferring into the host cell one or more genes coding for enzyme(s) catalyzing reactions in the common **aromatic** pathway. The genes transferred can be selected from the group consisting of the DAHP synthase gene and DHQ synthase gene. . .

DETDESC:

DETD(66)

Direct evidence for transketolase determination of carbon flow into **aromatic** amino acid biosynthesis follows from the impact on DAH accumulation in E. coli aroB strains when the specific activities of. . . changed. Stepwise increases in DAHP synthase specific activity at depleted levels of transketolase resulted (FIG. 4) in only a modest **increase** in the **carbon** **flow** into the common pathway of **aromatic** amino acid biosynthesis in E. coli aroB. This indicates that DAHP synthase activity does not solely determine the rate of carbon flow into **aromatic** amino acid biosynthesis and that the carbon flow is strongly influenced by the availability of D-erythrose 4-phosphate as determined by transketolase activity. Increasing the availability of D-erythrose 4-phosphate by increasing transketolase activity leads to a large **increase** in **carbon** **flow** into the common pathway with **increasing** DAHP synthase levels (FIG. 4).

CLAIMS:

CLMS(8)

8. A method for **increasing** **carbon** **flow** into the common **aromatic** pathway of a host cell comprising the step of transforming the host cell with recombinant DNA comprising a tkt gene. . .
=> d cit,ab 1- l12

1. 5,487,987, Jan. 30, 1996, Synthesis of adipic acid from biomass-derived carbon sources; John W. Frost, et al., 435/142, 172.3, 175, 189, 232, 252.3, 252.33, 320.1; 536/23.2, 23.7; 935/27, 60, 72 [IMAGE AVAILABLE]

US PAT NO: 5,487,987 [IMAGE AVAILABLE] L12: 1 of 53

ABSTRACT:
A method is provided for producing adipic acid. The method comprises the steps of culturing a cell transformant capable of converting a carbon source to catechol for a period of time sufficient to convert said carbon source to catechol, biocatalytically converting the catechol to cis, cis-muconic acid using catechol 1,2-dioxygenase, and hydrogenating the cis, cis-muconic acid to produce adipic acid.
Also provided is a heterologous transformant of the host cell having an endangeous common pathway of **aromatic** amino acid biosynthesis. The heterologous transformant is characterized by the constitutive expression of structural genes encoding 3-dehydroshikimate dehydratase, protocatechuate decarboxylase, and catechol 1,2-dioxygenase.

2. 5,344,988, Sep. 6, 1994, Hydroformylation process using novel phosphine-rhodium catalyst system; Thomas J. Devon, et al., 568/454; 556/21; 568/451 [IMAGE AVAILABLE]

US PAT NO: 5,344,988 [IMAGE AVAILABLE] L12: 2 of 53

ABSTRACT:
Disclosed are bis-phosphine compounds having the general formula ##STR1## wherein: each of A.sup.1, A.sup.2, A.sup.3 and A.sup.4 is an arylene radical wherein (i) each phosphorus atom P is bonded to a ring carbon atom of A.sup.1 and A.sup.2 and to a ring carbon atom of A.sup.3 and A.sup.4, (ii) A.sup.1 and A.sup.2, and A.sup.3 and A.sup.4 are bonded to each other by ring carbon atoms and (iii) each of the residues ##STR2## constitutes a 5-membered ring; each of A.sup.5 and A.sup.6 is an arylene radical wherein A.sup.5 and A.sup.6 are bonded to each other and to residues R.sup.1 --C--R.sup.2 and R.sup.3 --C--R.sup.4 by ring carbon atoms and R.sup.1 --C--R.sup.2 and R.sup.3 --C--R.sup.4 are connected to each other through a chain of 4 carbon atoms; and

R.sup.1, R.sup.2, R.sup.3 and R.sup.4 each represents hydrogen or a hydrocarbyl radical containing up to about 8 carbon atoms. Also disclosed are catalyst systems comprising one or more of the above phosphine compounds and rhodium, catalyst solutions comprising one or more the above phosphine compounds, rhodium and a hydroformylation solvent, and hydroformylation processes wherein olefins are contacted with carbon monoxide, hydrogen and the catalyst solution to produce aldehydes.

3. 5,332,846, Jul. 26, 1994, Hydroformylation process using novel phosphine-rhodium catalyst system; Thomas J. Devon, et al., 556/21, 15, 17; 568/454 [IMAGE AVAILABLE]

US PAT NO: 5,332,846 [IMAGE AVAILABLE] L12: 3 of 53

ABSTRACT:
Disclosed are bis-phosphine compounds having the general formula ##STR1## wherein: each of A.sup.1, A.sup.2, A.sup.3 and A.sup.4 is an arylene radical wherein (i) each phosphorus atom P is bonded to a ring carbon atom of A.sup.1 and A.sup.2 and to a ring carbon atom of A.sup.3 and A.sup.4, (ii) A.sup.1 and A.sup.2, and A.sup.3 and A.sup.4 are bonded to each other by ring carbon atoms and (iii) each of the residues ##STR2## constitutes a 5-membered ring; each of A.sup.5 and A.sup.6 is an arylene radical wherein A.sup.5 and A.sup.6 are bonded to each other and to residues R.sup.1 --C--R.sup.2 and R.sup.3 --C--R.sup.4 by ring carbon atoms and R.sup.1 --C--R.sup.2 and R.sup.3 --C--R.sup.4 are connected to each other through a chain of 4 carbon atoms; and

R.sup.1, R.sup.2, R.sup.3 and R.sup.4 each represents hydrogen or a hydrocarbyl radical containing up to about 8 carbon atoms. Also disclosed are catalyst systems comprising one or more of the above phosphine compounds and rhodium, catalyst solutions comprising one or more the above phosphine compounds, rhodium and a hydroformylation solvent, and hydroformylation processes wherein olefins are contacted with carbon monoxide, hydrogen and the catalyst solution to produce aldehydes.

4. 5,326,847, Jul. 5, 1994, Hindered phenolic antioxidant; antioxidant containing hydrophilic urethane polymer; dry cleaning solvent resistant, waterproof, moisture-vapor permeable material containing the polymer; and method of making the same; Malcolm B. Burleigh, et al., 528/60; 424/78.37, 445; 514/772.3; 528/76, 77, 904 [IMAGE AVAILABLE]

US PAT NO: 5,326,847 [IMAGE AVAILABLE] L12: 4 of 53

ABSTRACT:
The invention relates to a dry cleaning solvent resistant hydrophilic urethane polymer having about 0.5 to 10 weight percent of a hindered phenolic antioxidant reacted into its structure. The invention also relates to a hindered phenolic antioxidant capable of being reacted into the polymer. The invention also relates to a dry cleaning solvent resistant waterproof, moisture-vapor permeable material such as a laminate or a unitary sheet material. The unitary sheet material comprises a microporous polymeric matrix having pores comprising continuous passages extending through its thickness and opening into the opposite surfaces thereof, the passages being sufficiently filled with a moisture-vapor permeable, water-impermeable, hydrophilic material which comprises the polymer having the antioxidant reacted into its structure which prevents the passage of water and other liquids through the unitary sheet material while readily permitting moisture vapor transmission therethrough rendering the sheet material breathable. The unitary sheet material is made by causing a liquid composition comprising a hydrophilic material precursor to flow into the pores of the matrix, then causing the conversion thereof to solid hydrophilic material.

5. 5,312,862, May 17, 1994, Methods for admixing compressed fluids with solvent-borne compositions comprising solid polymers; Kenneth A. Nielsen, et al., 524/552; 106/195; 524/560, 563, 588, 594, 597, 601, 604, 612; 536/58 [IMAGE AVAILABLE]

US PAT NO: 5,312,862 [IMAGE AVAILABLE] L12: 5 of 53

ABSTRACT:
Methods are presented by which compressed fluids such as carbon dioxide, nitrous oxide, and ethane can be admixed with solvent-borne compositions that contain a high concentration of solid polymer, such as coating compositions, whereby precipitation of the solid polymer can be avoided, thereby preventing plugging of the mixing apparatus.

6. 5,234,471, Aug. 10, 1993, Polyimide gas separation membranes for carbon dioxide enrichment; Mark G. Weinberg, 95/47, 49, 51, 52 [IMAGE AVAILABLE]

US PAT NO: 5,234,471 [IMAGE AVAILABLE] L12: 6 of 53

ABSTRACT:

Aromatic polyimide membranes have superior flux at low temperature for carbon dioxide and other condensable gases. Superior flux is achieved without reduction in selectivity or other valuable properties of prior art membranes.

7. 5,187,071, Feb. 16, 1993, Method for the selective control of weeds, pests, and microbes; Randy S. Fischer, et al., 435/32; 424/9.2; 435/29; 514/76, 119 [IMAGE AVAILABLE]

US PAT NO: 5,187,071 [IMAGE AVAILABLE] L12: 7 of 53

ABSTRACT:
A novel means for identifying selective control agents for weeds, pests, and microbes is provided. Novel compositions for the selective control of weeds, pests, and microbes are also provided. The critical elements in the novel method of the invention relate to the systematic and specific identification of points of diversity which exist between the target organism and the host or other non-target organisms. More specifically the process involves identifying a difference which exists between the metabolic pathway of a microbial or plant target organism and a non-target host specie and then preparing a control agent which perturbs the metabolic pathway of the target without significantly perturbing the metabolic pathway of the host.

8. 5,173,300, Dec. 22, 1992, Hindered phenolic antioxidant containing hydrophilic urethane polymer; dry cleaning solvent resistant, waterproof, moisture-vapor permeable material containing the polymer; and method of making the same; Malcolm B. Burleigh, et al., 424/445; 428/290, 315.5; 604/369 [IMAGE AVAILABLE]

US PAT NO: 5,173,300 [IMAGE AVAILABLE] L12: 8 of 53

ABSTRACT:
The invention relates to a dry cleaning solvent resistant hydrophilic urethane polymer having about 0.5 to 10 weight percent of a hindered phenolic antioxidant reacted into its structure. The invention also relates to a dry cleaning solvent resistant waterproof, moisture-vapor permeable material such as a laminate or a unitary sheet material. The unitary sheet material comprises a microporous polymeric matrix having pores comprising continuous passages extending through its thickness and opening into the opposite surfaces thereof, the passages being sufficiently filled with a moisture-vapor permeable, water-impermeable, hydrophilic material which comprises the polymer having the antioxidant reacted into its structure which prevents the passage of water and other liquids through the unitary sheet material while readily permitting moisture vapor transmission therethrough rendering the sheet material breathable. The unitary sheet material is made by causing a liquid composition comprising a hydrophilic material precursor to flow into the pores of the matrix, then causing the conversion thereof to solid hydrophilic material.

9. 5,168,056, Dec. 1, 1992, Enhanced production of common **aromatic** pathway compounds; John W. Frost, 435/172.3, 183, 193, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,168,056 [IMAGE AVAILABLE] L12: 9 of 53

ABSTRACT:

A genetic element comprising an expression vector and a gene coding for transketolase is utilized to enhance diversion of carbon resources into the common **aromatic** pathway.

10. 5,093,888, Mar. 3, 1992, Optical transmitting system, optical members and polymer for same, and usage of same; Yoshitaka Takezawa, et al., 385/141, 144 [IMAGE AVAILABLE]

US PAT NO: 5,093,888 [IMAGE AVAILABLE] L12: 10 of 53

ABSTRACT:
An optical transmitting system comprising a light source, an optical transmitting portion from the light source, and an optical detecting portion characterized in that a fraction of deuterium substitution for hydrogen in a repeat unit of an organic polymer composing the optical transmitting portion is at most 40%, fluorine content in said organic polymer is less than 40% by weight, and said organic polymer comprises an amorphous polymer which satisfies the equation (I):

(.rho./M)(9.1.times.10.sup.-5.n.sub.CH +9.1.times.10.sup.-4.n.sub.NH +1.5.times.10.sup.-3.n.sub.OH)<5.3.times.10.sup.-6 (I)
[where, .rho. is density of the polymer (g/cm.sup.3), M is molecular weight of the repeat unit (g/mol), n.sub.CH, n.sub.NH, and n.sub.OH indicates number of combination of C--H bond, N--H bond, and O--H bond in the repeat unit respectively].

11. 5,091,533, Feb. 25, 1992, 5-hydroxy-2,3-dihydrobenzofuran analogs as leukotriene biosynthesis inhibitors; Patrice C. Belanger, et al., 544/318, 235, 286, 338, 405; 546/141, 152, 156, 157, 170, 262; 548/182, 221, 305.1, 361.1, 361.5, 469, 486; 549/28, 58, 273, 292, 294, 414, 462, 470 [IMAGE AVAILABLE]

US PAT NO: 5,091,533 [IMAGE AVAILABLE] L12: 11 of 53

ABSTRACT:
Compounds of the formula: ##STR1## where R.sup.2 contains certain aryls or heteroaryls are effective leukotriene inhibitors.

12. 5,074,958, Dec. 24, 1991, Method for removing polychlorinated dibenzodioxins and polychlorinated dibenzofurans and stickies from secondary fibers using supercritical propane solvent extraction; Carol A. Blaney, et al., 162/5, 63, 199, DIG.4 [IMAGE AVAILABLE]

US PAT NO: 5,074,958 [IMAGE AVAILABLE] L12: 12 of 53

ABSTRACT:
A process for removing stickies and/or PCDD's and PCDF's from cellulose-containing fibers such as waste paper is provided. The process comprises contacting the fibers with supercritical or near supercritical propane for a period of time sufficient to extract a substantial portion of the stickies and/or PCDD's and PCDF's without substantially damaging the fibers. Extraction efficiencies of up to 95% for PCDD's or PCDF's and of about 70% to 95% for stickies have been achieved with the technique.

13. 5,015,701, May 14, 1991, Composition of vinyl ester resin, hydroxyalkyl (meth)acrylate and a styrene; Linda A. Domeier, 525/531; 523/466, 468; 525/423, 922 [IMAGE AVAILABLE]

US PAT NO: 5,015,701 [IMAGE AVAILABLE] L12: 13 of 53

ABSTRACT:
Described herein are curable molding compositions comprising a mixture of:
(a) a vinyl ester produced by the addition of an unsaturated monocarboxylic acid to a polyepoxide and having a molecular weight greater than 300;
(b) acrylic or methacrylic acid or a functionalized derivative thereof having a molecular weight of less than 300;
(c) an ethylenically unsaturated monomer which is soluble in and copolymerizable with (a) and (b) and which is different from (b).
The compositions can also contain one or more fibers with a melting point or a glass transition temperature above about 130.degree. C.

14. 5,009,746, Apr. 23, 1991, Method for removing stickies from secondary fibers using supercritical CO.sub.2 solvent extraction; Shafi U. Hossain, et al., 162/5, 63, DIG.4 [IMAGE AVAILABLE]

US PAT NO: 5,009,746 [IMAGE AVAILABLE] L12: 14 of 53

ABSTRACT:
A process for removing sticky contaminants ("stickies") from cellulose-containing fibers such as waste paper is provided. The process comprises contacting the fibers with supercritical or near supercritical carbon dioxide for a period of time sufficient to extract a substantial portion of the stickies without substantially damaging the fibers.

15. 4,997,872, Mar. 5, 1991, Resinous composition; Tadayuki Ohmae, et al., 524/433, 430, 436, 504; 525/71, 74, 75 [IMAGE AVAILABLE]

US PAT NO: 4,997,872 [IMAGE AVAILABLE] L12: 15 of 53

ABSTRACT:
A resinous composition suitable for powder coating comprises (A) 80-98 parts by weight of a polypropylene composition comprising a crystalline propylene polymer grafted with an unsaturated carboxylic acid or an anhydride thereof, (B) 20-2 parts by weight of an ethylene/.alpha.-olefin copolymer having a density of 0.860-0.915 g/cm.sup.3, (C) 0.001-1.0 part by weight of a polymer of vinyl cycloalkane having 6 or more carbon atoms, and (D) 0-10 parts by weight of a metal oxide or a metal hydroxide.

16. 4,959,466, Sep. 25, 1990, Partially esterified polysaccharide (PEP) fat substitutes; John F. White, 536/119; 426/603, 804; 536/2, 3, 56, 58, 60, 102, 107, 114 [IMAGE AVAILABLE]

US PAT NO: 4,959,466 [IMAGE AVAILABLE] L12: 16 of 53

ABSTRACT:
Partially esterified oligosaccharides and polysaccharides (PEPs) of the formula [P--O--R).sub.x].sub.n, where P is a polysaccharide having n=3-50 (preferably 3-10) C.sub.4 -C.sub.8 saccharide units, y is 0-4 (preferably 1 or 2), R is H or a C.sub.3 -C.sub.28 acyl group, and x is the degree of esterification ranging from 1-80 percent. The PEPs are used as indigestible fat substitutes (fat mimetics). They have non-caloric food values, with good organoleptic characteristics, are substantially resistant to intestinal absorption and do not appreciably hydrolyze in

the digestive tract. Suitable polysaccharides are preferably selected from xanthan gum, guar gum, gum arabic, aliginates, cellulose hydrolysis products, hydroxypropyl cellulose, starch hydrolysis products, casein, Karaya gum and pectin. C.sub.5 and C.sub.6 oligosaccharides of n=3-10 units are preferred. The polysaccharides are transesterified with fatty acid methyl esters to create PEPs of a degree of esterification determined for each polysaccharide. The physical properties of the resultant PEPs range from a liquid oil, through fats, greases, and ultimately to waxes, and are useful in food formulations and for cooking as they have good mouth feel and characteristics similar to vegetable oils and fats. Being relatively non-absorbable, indigestible, and non-toxic they may be substitued for natural or processed oils and fats, while maintaining low caloric value.

17. 4,868,267, Sep. 19, 1989, Aminated hydroxylated polyester polyol resin and molding compositions comprised thereof; James P. Bershas, et al., 528/73, 291 [IMAGE AVAILABLE]

US PAT NO: 4,868,267 [IMAGE AVAILABLE] L12: 17 of 53

ABSTRACT:
A thermosetting resin composition comprising the product of an unsaturated polyester intermediate resin which is derived from the reaction of (a) an acid anhydride selected from the group including maleic acid anhydride or a mixture of maleic anhydride and a polyfunctional acid anhydride, a low molecular weight polyether polyol having a molecular weight of about 100 to about 600 selected from the group including diethylene glycol or a mixture of diethylene glycol and at least one other low molecular weight polyether polyol having a molecular weight of about 100 to about 600, and a lower alkylene oxide having from 2-4 carbon atoms; and, (b) a mono- or di-functional amino compound selected from the group including diethanolamine or a mixture of diethanolamine and at least one other mono- or di-functional amino compounds selected from the group including a primary or secondary amino alcohol or a primary or secondary diamine which contain isocyanate reactive groups attached to the nitrogen of the amino alcohol or diamine, the equivalent ratio of mono- or di-functional amino compound to unsaturated polyester intermediate resin being in the range from about 0.125 to about 0.5, such that a corresponding proportion of the unsaturated polyester intermediate resin remains unreacted and has a maleate functionality; (c) a morpholine compound; (d) a vinyl crosslinking compound; and (e) an isocyanate. The thermosetting resin compositions are especially useful in a reaction injection molding (RIM) process to prepare molded articles.

18. 4,851,480, Jul. 25, 1989, Extrusion-grade compositions comprising mixtures of wholly **aromatic** polyesters; Nathan D. Field, et al., 525/444; 524/539 [IMAGE AVAILABLE]

US PAT NO: 4,851,480 [IMAGE AVAILABLE] L12: 18 of 53

ABSTRACT:
This invention relates to extrusion-grade compositions comprising mixtures of wholly **aromatic** polyesters. These compositions can be extruded into smooth films and sheets having good properties and pleasing visual appearances.

19. 4,833,026, May 23, 1989, Breathable, waterproof sheet materials and

methods for making the same; William L. Kausch, 428/315.5; 264/41, 136, 147, 154, 288.8; 428/910 [IMAGE AVAILABLE]

US PAT NO: 4,833,026 [IMAGE AVAILABLE] L12: 19 of 53

ABSTRACT:
The present invention relates to breathable, waterproof sheet materials comprising a microporous polymeric film and a hydrophilic filler material infiltrated into the pores of the film, and to methods for making such sheet materials. In the methods of the present invention, the liquid hydrophilic material or precursor thereof is infiltrated into the pores of the microporous film after the film has been stretched in the lengthwise direction, but before the film is stretched in the transverse direction. By coating the microporous film prior to the transverse stretching step, superior waterproof sheet materials are obtained.

20. 4,764,540, Aug. 16, 1988, Rim polyurethane or polyurea compositions containing internal mold release agents; John E. Dewhurst, et al., 521/110; 252/182.14, 182.26, 182.28; 521/111; 524/714, 718; 528/53; 548/110; 556/437 [IMAGE AVAILABLE]

US PAT NO: 4,764,540 [IMAGE AVAILABLE] L12: 20 of 53

ABSTRACT:
The present invention is directed to a process for the production of optionally cellular, polyurethane elastomer moldings or optionally cellular, rigid structural polyurethanes by reacting a reaction mixture containing
(i) a polyisocyanate,
(ii) a high molecular weight polymer having at least two isocyanate-reactive groups and having a molecular weight of 400 to about 10,000,
(iii) about 5 to 50% by weight, based on the weight of component (ii) of a chain-extender having at least two isocyanate-reactive groups and
(iv) about 0.05 to 10 weight percent, based on the weight of components (ii) and (iii) of a salt based on a carboxy functional siloxane and an amidine group-containing compound of the formula ##STR1## wherein R.sub.1, R.sub.2 and R.sub.3 are straight or branched, saturated or unsaturated hydrocarbon chains having up to 30 carbon atoms which may optionally be substituted by ether groups, ester groups, amide groups or amidine groups and may also optionally be terminated by isocyanate-reactive groups such as hydroxyl or amino groups,
R.sub.4 corresponds to the definition of R.sub.1, R.sub.2 and R.sub.3, but may additionally represent an **aromatic** substituent having 6 to 15 carbon atoms or may represent the group --NR.sub.2 R.sub.3 and
R.sub.1, R.sub.2, R.sub.3 and R.sub.4 may, with one or both of the amidine nitrogens, also form a heterocyclic ring.
The present invention is also directed to the amidine group-containing salt (iv) and to a isocyanate-reactive composition based on components (ii), (iii) and (iv).

21. 4,755,575, Jul. 5, 1988, Process for preparing fiber reinforced molded articles; Linda A. Domeier, et al., 526/313; 525/44, 455, 502, 531; 526/320, 323.1, 323.2 [IMAGE AVAILABLE]

US PAT NO: 4,755,575 [IMAGE AVAILABLE] L12: 21 of 53

ABSTRACT:

Described herein is an improved process for rapidly fabricating fiber reinforced thermoset resin articles comprising: (a) providing in a heatable matched metal die mold a bonded web of one or more fibers with a melting point or a glass transition temperature above about 130.degree. C., (b) providing in an accumulator zone a liquid body of a thermosettable organic material having a viscosity determined at 120.degree. C., in the absence of curing agent, of less than about 50 centipoises, which is curable upon heating to a thermoset resin composition, the viscosity of said liquid body being maintained essentially constant in the accumulator zone by keeping its temperature below that at which curing of said materials is substantial, (c) closing said mold containing said web, (d) injecting at least a portion of said thermosettable organic material under pressure from said accumulator zone into the mold to thereby fill the cavity in said mold, (e) initiating the curing of said materials by subjecting the materials to a temperature by heating the mold, which is above the temperature at which the curing of said materials is initiated, and (f) opening said molding and removing the cured thermoset article therefrom, wherein the improvement comprises improving the release of the cured article from the mold by increasing the cross-link density of the cured thermosettable organic material in the molded article. Also described herein are curable molding compositions used for the rapid fabrication of fiber-reinforced thermoset resin articles having improved mold release characteristics.

22. 4,751,263, Jun. 14, 1988, Curable molding compositions containing a poly(acrylate); Linda A. Domeier, et al., 524/513, 555, 558; 525/183; 526/304, 323.2 [IMAGE AVAILABLE]

US PAT NO: 4,751,263 [IMAGE AVAILABLE] L12: 22 of 53

ABSTRACT:
Described herein are curable molding compositions comprising a mixture of:
(a) a poly(acrylate) characterized by the following empirical formula: ##STR1## wherein R is the hydroxy-free residue of an organic polyhydric alcohol which contained alcoholic hydroxyl groups bonded to different carbon atoms, R.sub.1 and R.sub.2 are independently hydrogen or methyl, and n is 1 to 3,
(b) acrylic or methacrylic acid or a functionalized derivative thereof having a molecular weight of less than 300 which is different from (a), and
(c) an ethylenically unsaturated monomer which is soluble in and copolymerizable with (a) and (b) and which is different from (a) and (b). The compositions can also contain one or more fibers with a melting point or a glass transition temperature above about 130.degree. C.

23. 4,626,570, Dec. 2, 1986, Low shrinking thermosetting polyester resin compositions and a process for the preparation thereof; Hugh C. Gardner, 525/12, 13, 20, 23, 34, 44, 168, 170 [IMAGE AVAILABLE]

US PAT NO: 4,626,570 [IMAGE AVAILABLE] L12: 23 of 53

ABSTRACT:
This invention relates to low shrinking, low viscosity curable polyester resin compositions, which compositions contain a mixture of (i) an unsaturated ester terminally modified with a reactive olefin such as dicyclopentadiene or other Diels-Alder adducts of cyclopentadiene with an

olefinic or acetylenic hydrocarbon or alkylated derivative thereof, (ii) a copolymerizable ethylenically unsaturated monomer which serves to crosslink the unsaturated polyester to a thermoset product, and (iii) a thermoplastic polymer low profile additive. Cured articles prepared from these curable polyester resin compositions exhibit reduced surface roughness. Fiber reinforced thermoset articles can be produced from these curable resin compositions.

24. 4,596,843, Jun. 24, 1986, High solids coating compositions; Donald G. Wind, 523/416, 402, 404, 418, 424, 429, 438, 439, 454, 455, 456, 462, 463, 464; 524/317, 361, 364, 365, 512, 539, 542; 525/510, 511 [IMAGE AVAILABLE]

US PAT NO: 4,596,843 [IMAGE AVAILABLE] L12: 24 of 53

ABSTRACT:

A high solids coating composition which comprises 10-96 percent by weight resin solids of a low molecular weight epoxy oligomer, 2-35 percent by weight crosslinking glycoluril-formaldehyde resin and a primary sulfonic acid catalyst. The oligomer is condensed upon heating into a high molecular weight polymer film with simultaneous crosslinking with the crosslinking agent to provide the desired film properties.

25. 4,585,847, Apr. 29, 1986, Curable molding compositions containing a half ester of an organic polyol; Linda A. Domeier, 526/271; 524/523 [IMAGE AVAILABLE]

US PAT NO: 4,585,847 [IMAGE AVAILABLE] L12: 25 of 53

ABSTRACT:
Described herein are curable molding compositions comprising a mixture of:
(a) a half ester of an organic polyol characterized by the following empirical formula: ##STR1## wherein n is a number having an average value of about 1.5 to less than about 4, m is equal to the free valence of R less the average value of n, and R is the hydroxyl-free residue of an organic polyol which contained from 2 to 4, inclusive, hydroxyl groups in formula (I),
(b) maleic anhydride,
(c) acrylic or methacrylic acid or a functionalized derivative thereof having a molecular weight of less than 300, and
(d) an ethylenically unsaturated monomer which is soluble in and copolymerizable with (a), (b), and (c) and which is different from (a), (b), and (c).
The compositions can also contain one or more fibers with a melting point or a glass transition temperature above about 130.degree. C.

26. 4,585,833, Apr. 29, 1986, Low shrinkling curable poly(acrylate) molding compositions; Linda A. Domeier, 525/260, 265, 281, 285, 286, 293, 296, 301, 303, 305, 306 [IMAGE AVAILABLE]

US PAT NO: 4,585,833 [IMAGE AVAILABLE] L12: 26 of 53

ABSTRACT:
This invention is directed to curable molding compositions containing a mixture of a poly(acrylate), a polymerizable ethylenically unsaturated monomer which serves to crosslink the poly(acrylate) to a thermoset

product, a thermoplastic polymer low profile additive, and a free radical initiator mixture containing at least one initiator with a 10-hour half-life temperature (t.sub.1/2) of greater than about 90.degree. C. and at least one initiator with a 10-hour half-life temperature (t.sub.1/2) of less than about 90.degree. C. The curable molding compositions exhibit improved shrink control during the curing reaction. This invention is also directed to fiber reinforced thermoset resin articles which exhibit generally improved surface appearance quality and can be produced by a rapid injection molding process from the curable molding compositions.

27. 4,579,890, Apr. 1, 1986, Curable molding compositions containing a polyester resin; Linda A. Domeier, 523/512, 514, 515, 516, 523, 527; 525/48 [IMAGE AVAILABLE]

US PAT NO: 4,579,890 [IMAGE AVAILABLE] L12: 27 of 53

ABSTRACT:
Described herein are curable molding compositions comprising a mixture of:
(a) an unsaturated polyester;
(b) acrylic or methacrylic acid or a functionalized derivative thereof having a molecular weight of less than 300;
(c) an ethylenically unsaturated monomer which is soluble in and copolymerizable with (a) and (b) and which is different from (b); and
(d) one or more fibers with a melting point or a glass transition temperature above about 130.degree. C.

28. 4,575,473, Mar. 11, 1986, Curable poly(acrylate) molding compositions containing a thermoplastic polymer low profile additive; Linda A. Domeier, 428/290; 264/257; 524/425, 426, 427, 441, 445, 492, 496, 504, 513, 514, 533, 539; 525/66, 301, 305 [IMAGE AVAILABLE]

US PAT NO: 4,575,473 [IMAGE AVAILABLE] L12: 28 of 53

ABSTRACT:
This invention is directed to curable molding compositions containing a mixutre of a poly(acrylate), a polymerizable ethylenically unsaturated monomer which serves to crosslink the poly(acrylate) to a thermoset product, and a thermoplastic polymer low profile additive. The curable molding compositions exhibit improved shrink control during the curing reaction. This invention is also directed to fiber reinforced thermoset resin articles which exhibit generally improved surface appearance quality and can be produced by a rapid injection molding process from the curable molding compositions.

29. 4,553,982, Nov. 19, 1985, Coated abrasive containing epoxy binder and method of producing the same; Gerald E. Korbel, et al., 51/298, 294, 295; 427/214, 221, 386, 411, 412; 428/240, 241, 244, 264, 326 [IMAGE AVAILABLE]

US PAT NO: 4,553,982 [IMAGE AVAILABLE] L12: 29 of 53

ABSTRACT:
The use of an **aromatic** amine salt of a substituted pentafluoroantimonic acid as a curing agent for epoxy resins, and the use of the epoxy resin compositions as binders for abrasives in abrasive sheet products, are disclosed. The **aromatic** amines are selected from aniline and hindered **aromatic** amines.

30. 4,532,297, Jul. 30, 1985, Low viscosity curable polyester resin compositions and a process for the production thereof; Hugh C. Gardner, 525/48, 20, 23, 43, 49; 528/274, 295.3, 298, 306, 485, 487, 488, 492 [IMAGE AVAILABLE]

US PAT NO: 4,532,297 [IMAGE AVAILABLE] L12: 30 of 53

ABSTRACT:
This invention relates to low viscosity curable polyester resin compositions and a process for the preparation thereof, which compositions contain a mixture of (i) an unsaturated ester terminally modified with a reactive olefin such as dicyclopentadiene or other Diels-Alder adducts of cyclopentadiene with an olefinic or acetylenic hydrocarbon or alkylated derivative thereof and (ii) a polymerizable ethylenically unsaturated monomer which serves to crosslink the unsaturated ester to a thermoset product. Fiber reinforced thermoset articles can be produced from these low viscosity curable polyester resin compositions.

31. 4,532,296, Jul. 30, 1985, Process for producing low viscosity curable polyester resin compositions; Hugh C. Gardner, 525/48, 20, 23, 43, 49; 528/274, 295.3, 298, 306, 485, 487, 488, 492 [IMAGE AVAILABLE]

US PAT NO: 4,532,296 [IMAGE AVAILABLE] L12: 31 of 53

ABSTRACT:
This invention relates to a process for producing low viscosity curable polyester resin compositions, which compositions contain a mixture of (i) an unsaturated ester terminally modified with a reactive olefin such as dicyclopentadiene or other Diels-Alder adducts of cyclopentadiene with an olefinic or acetylenic hydrocarbon or alkylated derivative thereof and (ii) a polymerizable ethylenically unsaturated monomer which serves to crosslink the unsaturated ester to a thermoset product. Fiber reinforced thermoset articles can be produced from these curable polyester resin compositions.

32. 4,525,890, Jul. 2, 1985, Paintbrush embedment compound and paintbrush construction and method embodying same; Dwight E. Peerman, et al., 15/193; 156/72, 293, 305; 300/21; 528/65, 67 [IMAGE AVAILABLE]

US PAT NO: 4,525,890 [IMAGE AVAILABLE] L12: 32 of 53

ABSTRACT:
An embedment compound for a paintbrush or the like, together with a paintbrush construction and method of manufacture embodying the improved embedment compound. The embedment compound is a polyurethane composition having a crosslink density sufficient to render such compound acceptably resistant to all paint solvents.
For example, a typical embodiment composition comprises a blend of Mondur MR with a prepolymer prepared from Pluracol TP-440 and Isonate 143L, and the blend cured at 100.degree. C. overnight.

33. 4,524,162, Jun. 18, 1985, Low shrinking curable molding compositions containing a poly(acrylate); Linda A. Domeier, 523/438, 439, 457, 467, 468, 523; 524/425, 426, 427, 437, 445, 492, 494, 496, 538; 525/107, 108, 111, 113, 179, 226, 305, 316 [IMAGE AVAILABLE]

US PAT NO: 4,524,162 [IMAGE AVAILABLE] L12: 33 of 53

ABSTRACT:
This invention is directed to curable molding compositions containing a mixture of a poly(acrylate); a polymerizable ethylenically unsaturated monomer which serves to crosslink the poly(acrylate) to a thermoset product; a crosslinkable vinyl monomer having a reactivity ratio (r.sub.1) with styrene of greater than one and at least one of the following: (i) a second crosslinkable vinyl monomer having a reactivity ratio (r.sub.1) with styrene of greater than one, (ii) an epoxy compound having at least one 1,2-epoxy group per molecule, and (iii) an unsaturated fatty acid ester; and a thermoplastic polymer low profile additive. The curable molding compositions exhibit improved shrink control during the curing reaction. This invention is also directed to fiber reinforced thermoset resin articles which exhibit generally improved surface appearance quality and can be produced by a rapid injection molding process from the curable molding compositions.

34. 4,522,978, Jun. 11, 1985, Low viscosity, dicyclopentadienyl-modified polyester compositions and a process for the preparation thereof; Hugh C. Gardner, 525/48, 20, 23; 528/176, 274, 286, 295.3, 297, 298, 303, 306 [IMAGE AVAILABLE]

US PAT NO: 4,522,978 [IMAGE AVAILABLE] L12: 34 of 53

ABSTRACT:
This invention relates to low viscosity polyester compositions which are terminally modified with a reactive olefin such as dicyclopentadiene or other Diels-Alder adducts of cyclopentadiene with an olefinic or acetylenic hydrocarbon or alkylated derivative thereof, and a process for the preparation thereof. These low viscosity polyester compositions have utility in resin systems for moldings, coatings, sealants and adhesives, and as reactive diluents.

35. 4,522,977, Jun. 11, 1985, Process for producing dicyclopentadienyl-modified polyester compositions; Hugh C. Gardner, 525/48, 20, 23; 528/274, 286, 298, 303, 306 [IMAGE AVAILABLE]

US PAT NO: 4,522,977 [IMAGE AVAILABLE] L12: 35 of 53

ABSTRACT:
This invention relates to a process for producing polyester compositions which are terminally modified with a reactive olefin such as dicyclopentadiene or other Diels-Alder adducts of cyclopentadiene with an olefinic or acetylenic hydrocarbon or alkylated derivative thereof. These polyester compositions have utility in resin systems for moldings, coatings, sealants and adhesives, and also as reactive diluents.

36. 4,503,211, Mar. 5, 1985, Epoxy resin curing agent, process and composition; Janis Robins, 528/92, 93, 110, 124, 361, 393, 409; 556/64, 76, 80 [IMAGE AVAILABLE]

US PAT NO: 4,503,211 [IMAGE AVAILABLE] L12: 36 of 53

ABSTRACT:
An epoxy resin latently curable composition including a novel curing agent comprising the liquid salt of a substituted pentafluoroantimonic acid and an **aromatic** amine selected from the group consisting of

aniline and a hindered amine has a desirably long pot life yet cures rapidly with heating to a cured composition.

37. 4,487,798, Dec. 11, 1984, Curable poly(acrylate) molding compositions containing a thermoplastic polymer low profile additive; Linda A. Domeier, 428/288, 290; 524/492, 496, 504, 513, 514, 533, 539; 525/66, 301, 305 [IMAGE AVAILABLE]

US PAT NO: 4,487,798 [IMAGE AVAILABLE] L12: 37 of 53

ABSTRACT:
This invention is directed to curable molding compositions containing a mixture of a poly(acrylate), a polymerizable ethylenically unsaturated monomer which serves to crosslink the poly(acrylate) to a thermoset product, unsubstituted or substituted meta- and/or para-divinylbenzene and a thermoplastic polymer low profile additive. The curable molding compositions exhibit improved shrink control during the curing reaction. This invention is also directed to fiber reinforced thermoset resin articles which exhibit generally improved surface appearance quality and can be produced by a rapid injection molding process from the curable molding compositions.

38. 4,483,961, Nov. 20, 1984, Polymeric cyclopentadiene derivatives, method for preparing and use thereof; Diether Koch, et al., 524/542; 523/139, 144, 466; 524/593, 877; 528/220, 246 [IMAGE AVAILABLE]

US PAT NO: 4,483,961 [IMAGE AVAILABLE] L12: 38 of 53

ABSTRACT:
Polymeric cyclopentadiene derivatives, method for preparing polymeric cyclopentadiene derivatives, and use of polymeric cyclopentadiene derivatives in curable binder compositions.

39. 4,482,489, Nov. 13, 1984, Light-sensitive diazonium trifluoromethane sulfonates; Carmine A. DiPippo, 534/556; 430/4, 136, 147, 151, 157, 163, 171, 176, 177; 522/25, 32, 170; 524/190 [IMAGE AVAILABLE]

US PAT NO: 4,482,489 [IMAGE AVAILABLE] L12: 39 of 53

ABSTRACT:
Provided are light-sensitive diazonium compounds known as diazonium trifluoromethane sulfonates, which have the structural formula: ##STR1## wherein D --N.dbd.N-- is the cation of a light-sensitive, **aromatic** diazonium compound. The diazonium trifluoromethane sulfonates are prepared as the reaction product of trifluoromethyl sulfonic acid, or a salt thereof, and a diazonium compound. Said diazonium trifluoromethane sulfonates find utility in diazography formulation for both positive- and negative-working diazotype photoreproduction systems, and as latent polymerization initiators activatable by irradiation.

40. 4,414,367, Nov. 8, 1983, Curable molding compositions; Hugh C. Gardner, 525/531, 922 [IMAGE AVAILABLE]

US PAT NO: 4,414,367 [IMAGE AVAILABLE] L12: 40 of 53

ABSTRACT:
Described herein are curable liquid homogeneous mixtures used for the rapid production of fiber-reinforced thermoset resin articles which

comprise:
(a) a vinyl ester of the following formula: ##STR1## wherein the R's are independently hydrogen or methyl, R.sub.1 is the residue of a cycloaliphatic or **aromatic** diol and n has an average value of from 1 to about 5.
(b) a second crosslinkable oligomer containing two or more unsaturated groups selected from acrylates, methacrylates and fumarate diesters; and
(c) a monoethylenically unsaturated monomer, wherein the ratio of (a) to (b) is greater than about 0.3.

41. 4,390,677, Jun. 28, 1983, Article molded from ethylene hydrocarbon copolymer; Frederick J. Karol, et al., 526/348.6; 264/310, 328.1; 526/348, 348.2 [IMAGE AVAILABLE]

US PAT NO: 4,390,677 [IMAGE AVAILABLE] L12: 41 of 53

ABSTRACT:
An article molded from ethylene hydrocarbon copolymers, which articles have superior stress crack resistance and low temperature toughness.

42. 4,324,679, Apr. 13, 1982, Controlling odor in photopolymerization; Robert C. Carlson, 522/31; 430/280.1, 281.1; 522/170 [IMAGE AVAILABLE]

US PAT NO: 4,324,679 [IMAGE AVAILABLE] L12: 42 of 53

ABSTRACT:
The use of certain organic materials having non-**aromatic** carbon-carbon unsaturation is described in connection with photopolymerizable compositions containing **aromatic** sulfonium complex salt photoinitiators in order to minimize or eliminate the odor of organosulfur reaction by-products.

43. 4,318,766, Mar. 9, 1982, Process of using photocopolymerizable compositions based on epoxy and hydroxyl-containing organic materials; George H. Smith, 156/330; 427/506, 517; 428/413, 417, 418; 430/270.1, 289.1, 300, 302, 306; 522/25, 31, 46, 88, 129, 170 [IMAGE AVAILABLE]

US PAT NO: 4,318,766 [IMAGE AVAILABLE] L12: 43 of 53

ABSTRACT:
Photocopolymerizable compositions are described which contain epoxides, organic material with hydroxyl functionality, and a photosensitive **aromatic** sulfonium or iodonium salt of a halogen-containing complex ion. Coated substrates are also described.

44. 4,293,480, Oct. 6, 1981, Urethane binder compositions for no-bake and cold box foundry application utilizing isocyanato-urethane polymers; Ralph D. Martin, et al., 523/143, 142; 524/590; 525/456 [IMAGE AVAILABLE]

US PAT NO: 4,293,480 [IMAGE AVAILABLE] L12: 44 of 53

ABSTRACT:
Foundry cores and molds for casting metals are prepared by forming a binder comprising a polyol, an isocyanato urethane polymer and a urethane catalyst. The foundry cores and molds of this invention are formed by processes known in the industry as the "cold box" process and the no-bake process. The binder is especially useful for casting non-ferrous metals, for example, the casting of aluminum, magnesium and other lightweight

metals. The cores and molds produced for casting aluminum and other lightweight metals exhibit excellent shakeout while retaining other desirable core and mold properties.

45. 4,256,828, Mar. 17, 1981, Photocopolymerizable compositions based on epoxy and hydroxyl-containing organic materials; George H. Smith, 522/31; 430/270.1, 280.1, 914, 921, 925; 522/14, 15, 25, 88, 129, 146, 170 [IMAGE AVAILABLE]

US PAT NO: 4,256,828 [IMAGE AVAILABLE] L12: 45 of 53

ABSTRACT:
Photocopolymerizable compositions are described which contain epoxides, organic material with hydroxyl functionality, and a photosensitive **aromatic** sulfonium or iodonium salt of a halogen-containing complex ion. Coated substrates are also described.

46. 4,231,951, Nov. 4, 1980, Complex salt photoinitiator; George H. Smith, et al., 556/80 [IMAGE AVAILABLE]

US PAT NO: 4,231,951 [IMAGE AVAILABLE] L12: 46 of 53

ABSTRACT:
A triarylsulfonium complex salt is described which has particular utility as a photoinitiator for the polymerization of epoxide monomers in thick films or coatings. Photopolymerizable compositions are also described.

47. 4,218,531, Aug. 19, 1980, Addition of ethylenically unsaturated materials to control odor in photopolymerizable epoxy compositions; Robert C. Carlson, 430/280.1, 281.1; 522/31, 79, 146, 150, 170 [IMAGE AVAILABLE]

US PAT NO: 4,218,531 [IMAGE AVAILABLE] L12: 47 of 53

ABSTRACT:
The use of certain organic materials having non-**aromatic** carbon-carbon unsaturation is described in connection with photopolymerizable compositions containing **aromatic** sulfonium complex salt photoinitiators in order to minimize or eliminate the odor of organosulfur reaction by-products.

48. 4,173,476, Nov. 6, 1979, Complex salt photoinitiator; George H. Smith, et al., 430/280.1; 264/447, 448, 495; 430/145; 522/31, 170; 528/90, 361, 409; 556/80; 987/24 [IMAGE AVAILABLE]

US PAT NO: 4,173,476 [IMAGE AVAILABLE] L12: 48 of 53

ABSTRACT:
A triarylsulfonium complex salt is described which has particular utility as a photoinitiator for the polymerization of epoxide monomers in thick films or coatings. Photopolymerizable compositions are also described.

49. 4,171,453, Oct. 16, 1979, Carbonation of alkali metal phenates; Eugene R. Moore, et al., 562/406, 424 [IMAGE AVAILABLE]

US PAT NO: 4,171,453 [IMAGE AVAILABLE] L12: 49 of 53

ABSTRACT:

A dry alkali metal phenate can be more efficiently carbonated with carbon dioxide under pressure to an alkali metal carboxylate of a phenol, if the phenate is finely divided and the temperature during carbonation is maintained below about 135.degree. C. until at least about 25 mole percent of the carbon dioxide theoretically necessary to achieve complete carbonation is absorbed by the phenate. This method of carbonation is particularly useful to produce the sodium salt of salicylic acid.

50. 4,115,295, Sep. 19, 1978, Polymerizable compositions containing highly fluorinated aliphatic sulfonyl protonic acid catalyst; Janis Robins, et al., 528/90; 525/346, 485, 523; 528/23, 26, 27, 55, 110, 361, 393, 408, 417, 418, 419, 421 [IMAGE AVAILABLE]

US PAT NO: 4,115,295 [IMAGE AVAILABLE] L12: 50 of 53

ABSTRACT:
Two-part polymerizable compositions are described which contain (a) organic material having epoxide functionality, (b) organic material having hydroxyl functionality, and (c) a catalyst comprising highly fluorinated aliphatic sulfonyl protonic acid or a compound capable of liberating such acid. The compositions polymerize essentially completely at room temperature (or at slightly elevated temperatures). The polymerized compositions have desirable dielectric properties and are therefore especially useful for potting electrical components.

51. 4,100,354, Jul. 11, 1978, Terephthalate ester polyols; Gwilym E. Owen, Jr., 560/89; 521/172, 173, 176; 560/91 [IMAGE AVAILABLE]

US PAT NO: 4,100,354 [IMAGE AVAILABLE] L12: 51 of 53

ABSTRACT:

Mixtures of glycols, monomers and oligomers are disclosed which mixtures are converted to terephthalate ester polyols. These terephthalate ester polyols are useful in the production of polyurethane foams. When these polyols are employed to produce polyurethane foams, the resulting foams exhibit excellent flame properties.

52. 3,755,262, Aug. 28, 1973, TRANSPARENT HIGH-IMPACT POLYURETHANE PRODUCTS; Edwin C. Slagel, 528/66; 135/115; 264/338; 528/49, 52, 55, 56, 58, 77, 906 [IMAGE AVAILABLE]

US PAT NO: 3,755,262 [IMAGE AVAILABLE] L12: 52 of 53

ABSTRACT:
A polyurethane and method of making said polyurethane which is characterized by being transparent and having good heat distortion and resistance to haze and impact.

53. 3,634,169, Jan. 11, 1972, FILM ADHESIVES OF POLYVINYL CHLORIDE AND EPOXIDE RESINS; Edward William Garnish, 156/306.9, 246, 249, 313, 330, 333; 428/349, 355, 413, 415, 416; 525/121 [IMAGE AVAILABLE]

US PAT NO: 3,634,169 [IMAGE AVAILABLE] L12: 53 of 53

ABSTRACT:
A method of preparing a heat-curable film, suitable for use as an adhesive, which comprises:

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 A. forming a layer of a liquid mixture of
  I. an epoxide resin,
Ii. a heat-curing agent therefor,
  Iii. a plastisol containing, finely dispersed in a plasticizer, a vinyl
   chloride polymer, and
 B. heating the said layer such that the plastisol gels and the mixture
  forms a coherent film but the epoxide resin remains curable.
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L2            72 S L1(6A)(MODIF? OR ALTER? OR INCREAS?)
L3            69 S (PHOSPHOENOL PYRUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)
L4             3 S (PHOSPHOENOLPYRUVATE OR PHOSPHO ENOL PYRUVATE)(4A)(SUPPL
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L5             0 S L2(P)(L3 OR L4)
L6             0 S L2 AND (L3 OR L4)
L7           502 S PHOSPHOTRANSFERASE# OR PHOSHO TRANSFERASE#
L8           509 S PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#
L9             0 S (L2 OR L3 OR L4)(P)L8
L10            0 S (L2 OR L3 OR L4) AND L8
L11          144 S (L2 OR L3 OR L4)
L12           53 S L11 AND (AROMATIC OR SHIKIMATE)
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L2        1019 CARBON(2A)(FLUX OR FLOW)

FILE 'LIFESCI'
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         23378 FLOW
L3         451 CARBON(2A)(FLUX OR FLOW)

FILE 'BIOTECHDS'
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L4         112 CARBON(2A)(FLUX OR FLOW)

FILE 'BIOSIS'
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L5        1801 CARBON(2A)(FLUX OR FLOW)

FILE 'EMBASE'
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        194008 FLOW
L6         442 CARBON(2A)(FLUX OR FLOW)

FILE 'HCAPLUS'
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L7        2650 CARBON(2A)(FLUX OR FLOW)

FILE 'NTIS'
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        142776 FLOW
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FILE 'SCISEARCH'

        180776 MODIF?
        231861 ALTER?
        624280 INCREAS?
L12         50 L2 (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'LIFESCI'

         47129 MODIF?
         81001 ALTER?
        239393 INCREAS?
L13         31 L3 (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'BIOTECHDS'
         14323 MODIF?
         10152 ALTER?
         33507 INCREAS?
L14         18 L4 (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'BIOSIS'

        205527 MODIF?
        357690 ALTER?
       1169041 INCREAS?

L15         90 L5 (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'EMBASE'

        170424 MODIF?
        325576 ALTER?
        985001 INCREAS?
L16         41 L6 (6A)(MODIF? OR ALTER? OR INCREAS?)
```

```
FILE 'HCAPLUS'

        440987 MODIF?
        397282 ALTER?
       2026009 INCREAS?
L17         72 L7  (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'NTIS'
         83459 MODIF?
         74205 ALTER?
        148044 INCREAS?
L18          6 L8  (6A)(MODIF? OR ALTER? OR INCREAS?)

FILE 'WPIDS'

        134546 MODIF?
        246567 ALTER?
        716341 INCREAS?
L19         15 L9  (6A)(MODIF? OR ALTER? OR INCREAS?)

TOTAL FOR ALL FILES
L20        368 L10(6A)(MODIF? OR ALTER? OR INCREAS?)

=> s (phosphoenolpyruvate or (phospho enol or phosphoenol)(w)pyruvate or
pep)(4a)(suppl#### or availab?)

FILE 'MEDLINE'
          4612 PHOSPHOENOLPYRUVATE
          1845 PHOSPHO
           438 ENOL
            45 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           175 PHOSPHOENOL
         17595 PYRUVATE
          1950 PEP
        209510 SUPPL####
        137853 AVAILAB?
L21         16 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
               RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'SCISEARCH'
          3379 PHOSPHOENOLPYRUVATE
          1090 PHOSPHO
          3733 ENOL
            36 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           132 PHOSPHOENOL
         10679 PYRUVATE
          1186 PEP
         45265 SUPPL####
        110474 AVAILAB?
L22         16 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
               RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'LIFESCI'
          1336 PHOSPHOENOLPYRUVATE
           603 "PHOSPHO"
           156 "ENOL"
```

```
             12 PHOSPHO ENOL
                  ("PHOSPHO"(W)"ENOL")
             84 PHOSPHOENOL
           3675 PYRUVATE
            505 PEP
          11890 SUPPL####
          41064 AVAILAB?
L23           5 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
                RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'BIOTECHDS'
            220 PHOSPHOENOLPYRUVATE
            120 PHOSPHO
             98 ENOL
              2 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
             29 PHOSPHOENOL
           1060 PYRUVATE
            100 PEP
           4477 SUPPL####
           4619 AVAILAB?
L24           2 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
                RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'BIOSIS'
           5521 PHOSPHOENOLPYRUVATE
          54446 PHOSPHO
           1555 ENOL
            134 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
           3541 PHOSPHOENOL
          27539 PYRUVATE
           2647 PEP
          64167 SUPPL####
         144626 AVAILAB?
L25          23 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
                RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'EMBASE'
           3021 PHOSPHOENOLPYRUVATE
           1256 "PHOSPHO"
            871 "ENOL"
             35 PHOSPHO ENOL
                  ("PHOSPHO"(W)"ENOL")
            130 PHOSPHOENOL
          14236 PYRUVATE
           1767 PEP

         287930 SUPPL####
         143285 AVAILAB?
L26          13 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
                RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'HCAPLUS'
           7965 PHOSPHOENOLPYRUVATE
           4810 PHOSPHO
          11627 ENOL
             28 PHOSPHO ENOL
```

```
                (PHOSPHO(W)ENOL)
           409 PHOSPHOENOL
         31559 PYRUVATE
          3648 PEP
        106294 SUPPL####
        194868 AVAILAB?
L27         38 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
               RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'NTIS'
            33 PHOSPHOENOLPYRUVATE
            34 PHOSPHO
            72 ENOL
             0 PHOSPHO ENOL
                (PHOSPHO(W)ENOL)
             5 PHOSPHOENOL
           281 PYRUVATE
          1023 PEP
         73187 SUPPL####
        191050 AVAILAB?
L28         13 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
               RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

FILE 'WPIDS'
            48 PHOSPHOENOLPYRUVATE
          2693 PHOSPHO
          1215 ENOL
            57 PHOSPHO ENOL
                (PHOSPHO(W)ENOL)
            60 PHOSPHOENOL
           771 PYRUVATE
           162 PEP

        511912 SUPPL####
         54236 AVAILAB?
L29          0 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W)PY
               RUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

TOTAL FOR ALL FILES
L30        126 (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOENOL)(W) P
               YRUVATE OR PEP)(4A)(SUPPL#### OR AVAILAB?)

=> s phosphotransferase# or phospho transferase#

FILE 'MEDLINE'
         13813 PHOSPHOTRANSFERASE#
          1845 PHOSPHO
         23540 TRANSFERASE#
             8 PHOSPHO TRANSFERASE#
                (PHOSPHO(W)TRANSFERASE#)
L31      13817 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'SCISEARCH'
          2566 PHOSPHOTRANSFERASE#
          1090 PHOSPHO
         16044 TRANSFERASE#
             9 PHOSPHO TRANSFERASE#
                (PHOSPHO(W)TRANSFERASE#)
```

```
L32        2573 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'LIFESCI'
           1729 PHOSPHOTRANSFERASE#
            603 "PHOSPHO"
           5957 TRANSFERASE#
              5 PHOSPHO TRANSFERASE#
                  ("PHOSPHO"(W)TRANSFERASE#)
L33        1731 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'BIOTECHDS'
           1309 PHOSPHOTRANSFERASE#
            120 PHOSPHO
           1032 TRANSFERASE#
              0 PHOSPHO TRANSFERASE#
                  (PHOSPHO(W)TRANSFERASE#)
L34        1309 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'BIOSIS'
           4218 PHOSPHOTRANSFERASE#
          54446 PHOSPHO
          47859 TRANSFERASE#
           1748 PHOSPHO TRANSFERASE#
                  (PHOSPHO(W)TRANSFERASE#)
L35        5327 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'EMBASE'
           4216 PHOSPHOTRANSFERASE#
           1256 "PHOSPHO"
          19848 TRANSFERASE#
              4 PHOSPHO TRANSFERASE#
                  ("PHOSPHO"(W)TRANSFERASE#)
L36        4220 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'HCAPLUS'
           5013 PHOSPHOTRANSFERASE#
           4810 PHOSPHO
          22411 TRANSFERASE#
              4 PHOSPHO TRANSFERASE#
                  (PHOSPHO(W)TRANSFERASE#)
L37        5017 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'NTIS'
            121 PHOSPHOTRANSFERASE#
             34 PHOSPHO
            524 TRANSFERASE#
              0 PHOSPHO TRANSFERASE#
                  (PHOSPHO(W)TRANSFERASE#)
L38         121 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

FILE 'WPIDS'
             79 PHOSPHOTRANSFERASE#
           2693 PHOSPHO
           1591 TRANSFERASE#
             11 PHOSPHO TRANSFERASE#
                  (PHOSPHO(W)TRANSFERASE#)
L39          81 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#
```

```
TOTAL FOR ALL FILES
L40      34196 PHOSPHOTRANSFERASE# OR PHOSPHO TRANSFERASE#

=> s l40 and l10

FILE 'MEDLINE'
L41            6 L31 AND L1

FILE 'SCISEARCH'
L42            6 L32 AND L2

FILE 'LIFESCI'
L43            1 L33 AND L3

FILE 'BIOTECHDS'
L44            1 L34 AND L4

FILE 'BIOSIS'
L45            6 L35 AND L5

FILE 'EMBASE'
L46            2 L36 AND L6

FILE 'HCAPLUS'
L47            3 L37 AND L7

FILE 'NTIS'
L48            1 L38 AND L8

FILE 'WPIDS'
L49            0 L39 AND L9

TOTAL FOR ALL FILES
L50           26 L40 AND L10

=> s l40(8a)(delet? or inactivat?)

FILE 'MEDLINE'
         52523 DELET?
         55724 INACTIVAT?
L51         89 L31(8A)(DELET? OR INACTIVAT?)

FILE 'SCISEARCH'
         35847 DELET?
         34336 INACTIVAT?
L52         31 L32(8A)(DELET? OR INACTIVAT?)

FILE 'LIFESCI'
         23068 DELET?
         19603 INACTIVAT?
L53         46 L33(8A)(DELET? OR INACTIVAT?)

FILE 'BIOTECHDS'
          5056 DELET?
          4282 INACTIVAT?
L54         37 L34(8A)(DELET? OR INACTIVAT?)

FILE 'BIOSIS'
```

```
         53060 DELET?
         64683 INACTIVAT?
L55         90 L35(8A)(DELET? OR INACTIVAT?)

FILE 'EMBASE'
         44632 DELET?
         49222 INACTIVAT?
L56         59 L36(8A)(DELET? OR INACTIVAT?)

FILE 'HCAPLUS'
         48952 DELET?
         74626 INACTIVAT?
L57        116 L37(8A)(DELET? OR INACTIVAT?)

FILE 'NTIS'
          3611 DELET?
          1750 INACTIVAT?
L58          0 L38(8A)(DELET? OR INACTIVAT?)

FILE 'WPIDS'
          6582 DELET?
          6016 INACTIVAT?
L59          3 L39(8A)(DELET? OR INACTIVAT?)

TOTAL FOR ALL FILES
L60        471 L40(8A)(DELET? OR INACTIVAT?)

=> s l60 and transport?

FILE 'MEDLINE'
        151788 TRANSPORT?
L61          8 L51 AND TRANSPORT?

FILE 'SCISEARCH'
        173998 TRANSPORT?
L62          0 L52 AND TRANSPORT?

FILE 'LIFESCI'
         40128 TRANSPORT?
L63          1 L53 AND TRANSPORT?

FILE 'BIOTECHDS'
          2468 TRANSPORT?
L64          1 L54 AND TRANSPORT?

FILE 'BIOSIS'
        170182 TRANSPORT?
L65          9 L55 AND TRANSPORT?

FILE 'EMBASE'
        136690 TRANSPORT?
L66          8 L56 AND TRANSPORT?

FILE 'HCAPLUS'
        369630 TRANSPORT?
L67         15 L57 AND TRANSPORT?

FILE 'NTIS'
```

```
        110225 TRANSPORT?
L68          0 L58 AND TRANSPORT?

FILE 'WPIDS'
        159257 TRANSPORT?
L69          0 L59 AND TRANSPORT?

TOTAL FOR ALL FILES
L70         42 L60 AND TRANSPORT?

=> s l40 and glucose

FILE 'MEDLINE'
        169550 GLUCOSE
L71       1651 L31 AND GLUCOSE

FILE 'SCISEARCH'
         85300 GLUCOSE
L72        412 L32 AND GLUCOSE

FILE 'LIFESCI'
         25228 GLUCOSE
L73        295 L33 AND GLUCOSE

FILE 'BIOTECHDS'
         20073 GLUCOSE
L74         62 L34 AND GLUCOSE

FILE 'BIOSIS'
        177524 GLUCOSE
L75        899 L35 AND GLUCOSE

FILE 'EMBASE'
        133762 GLUCOSE
L76        632 L36 AND GLUCOSE

FILE 'HCAPLUS'
        202454 GLUCOSE
L77        971 L37 AND GLUCOSE

FILE 'NTIS'
          2633 GLUCOSE
L78          8 L38 AND GLUCOSE

FILE 'WPIDS'
         16729 GLUCOSE
L79          8 L39 AND GLUCOSE

TOTAL FOR ALL FILES
L80       4938 L40 AND GLUCOSE

=> s l60 and l80

FILE 'MEDLINE'
L81         13 L51 AND L71

FILE 'SCISEARCH'
L82          1 L52 AND L72
```

```
FILE 'LIFESCI'
L83            3 L53 AND L73

FILE 'BIOTECHDS'
L84            3 L54 AND L74

FILE 'BIOSIS'
L85           12 L55 AND L75

FILE 'EMBASE'
L86           11 L56 AND L76

FILE 'HCAPLUS'
L87           14 L57 AND L77

FILE 'NTIS'
L88            0 L58 AND L78

FILE 'WPIDS'
L89            1 L59 AND L79

TOTAL FOR ALL FILES
L90           58 L60 AND L80

=> s 180 and transport

FILE 'MEDLINE'
          131491 TRANSPORT
L91          445 L71 AND TRANSPORT

FILE 'SCISEARCH'
          157467 TRANSPORT
L92          172 L72 AND TRANSPORT

FILE 'LIFESCI'
           33832 TRANSPORT
L93          116 L73 AND TRANSPORT

FILE 'BIOTECHDS'
            1975 TRANSPORT
L94           10 L74 AND TRANSPORT

FILE 'BIOSIS'
          152584 TRANSPORT
L95          290 L75 AND TRANSPORT

FILE 'EMBASE'
          125004 TRANSPORT
L96          269 L76 AND TRANSPORT

FILE 'HCAPLUS'
          336613 TRANSPORT
L97          395 L77 AND TRANSPORT

FILE 'NTIS'
           65551 TRANSPORT
L98            3 L78 AND TRANSPORT
```

```
FILE 'WPIDS'
        106926 TRANSPORT
L99          0 L79 AND TRANSPORT

TOTAL FOR ALL FILES
L100      1700 L80 AND TRANSPORT

=> s l100 and (phosphoenolpyruvate or (phospho enol or phosphoenol)(w)pyruvate
or pep)

FILE 'MEDLINE'
          4612 PHOSPHOENOLPYRUVATE
          1845 PHOSPHO
           438 ENOL
            45 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           175 PHOSPHOENOL
         17595 PYRUVATE
           192 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          1950 PEP
L101       250 L91 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'SCISEARCH'
          3379 PHOSPHOENOLPYRUVATE
          1090 PHOSPHO
          3733 ENOL
            36 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           132 PHOSPHOENOL
         10679 PYRUVATE
           155 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          1186 PEP
L102       117 L92 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'LIFESCI'
          1336 PHOSPHOENOLPYRUVATE
           603 "PHOSPHO"
           156 "ENOL"
            12 PHOSPHO ENOL
                 ("PHOSPHO"(W)"ENOL")
            84 PHOSPHOENOL
          3675 PYRUVATE
            87 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           505 PEP
L103        85 L93 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'BIOTECHDS'
           220 PHOSPHOENOLPYRUVATE
           120 PHOSPHO
            98 ENOL
             2 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
            29 PHOSPHOENOL
          1060 PYRUVATE
```

```
             29 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
            100 PEP
L104          5 L94 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'BIOSIS'
           5521 PHOSPHOENOLPYRUVATE
          54446 PHOSPHO
           1555 ENOL
            134 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
           3541 PHOSPHOENOL
          27539 PYRUVATE
           3616 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           2647 PEP
L105        192 L95 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'EMBASE'
           3021 PHOSPHOENOLPYRUVATE
           1256 "PHOSPHO"
            871 "ENOL"
             35 PHOSPHO ENOL
                  ("PHOSPHO"(W)"ENOL")
            130 PHOSPHOENOL
          14236 PYRUVATE
            151 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           1767 PEP
L106        176 L96 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'HCAPLUS'
           7965 PHOSPHOENOLPYRUVATE
           4810 PHOSPHO
          11627 ENOL
             28 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
            409 PHOSPHOENOL
          31559 PYRUVATE
            380 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           3648 PEP
L107        289 L97 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'NTIS'
             33 PHOSPHOENOLPYRUVATE
             34 PHOSPHO
             72 ENOL
              0 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
              5 PHOSPHOENOL
            281 PYRUVATE
              3 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           1023 PEP
L108          3 L98 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'WPIDS'
```

```
          48 PHOSPHOENOLPYRUVATE
        2693 PHOSPHO
        1215 ENOL
          57 PHOSPHO ENOL
               (PHOSPHO(W)ENOL)
          60 PHOSPHOENOL
         771 PYRUVATE
          63 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
         162 PEP
L109       0 L99 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
             OL)(W)PYRUVATE OR PEP)

TOTAL FOR ALL FILES
L110    1117 L100 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOE
             NOL)(W) PYRUVATE OR PEP)

=> s l110 and mut/q

FILE 'MEDLINE'

L111     153 L101 AND MUT/Q

FILE 'SCISEARCH'
SEARCH ENDED BY USER

=> del l111-

DELETE L111? (Y)/N:y

'L111' DELETED

=> s l40(10a)mut/q

FILE 'MEDLINE'

L111     282 L31(10A)MUT/Q

FILE 'SCISEARCH'
L112     154 L32(10A)MUT/Q

FILE 'LIFESCI'

L113     156 L33(10A)MUT/Q

FILE 'BIOTECHDS'
L114      61 L34(10A)MUT/Q

FILE 'BIOSIS'
L115     410 L35(10A)MUT/Q

FILE 'EMBASE'

L116     219 L36(10A)MUT/Q

FILE 'HCAPLUS'
L117     382 L37(10A)MUT/Q

FILE 'NTIS'
```

```
L118          2 L38(10A)MUT/Q

FILE 'WPIDS'
L119          6 L39(10A)MUT/Q

TOTAL FOR ALL FILES
L120       1672 L40(10A) MUT/Q

=> s l110 and l120

FILE 'MEDLINE'
L121         53 L101 AND L111

FILE 'SCISEARCH'
L122         17 L102 AND L112

FILE 'LIFESCI'
L123         16 L103 AND L113

FILE 'BIOTECHDS'
L124          1 L104 AND L114

FILE 'BIOSIS'
L125         47 L105 AND L115

FILE 'EMBASE'
L126         36 L106 AND L116

FILE 'HCAPLUS'
L127         75 L107 AND L117

FILE 'NTIS'
L128          0 L108 AND L118

FILE 'WPIDS'
L129          0 L109 AND L119

TOTAL FOR ALL FILES
L130        245 L110 AND L120

=> s l20 and (aromatic or shikimate)

FILE 'MEDLINE'
         14732 AROMATIC
           213 SHIKIMATE
L131          1 L11 AND (AROMATIC OR SHIKIMATE)

FILE 'SCISEARCH'
         43585 AROMATIC
           430 SHIKIMATE
L132          0 L12 AND (AROMATIC OR SHIKIMATE)

FILE 'LIFESCI'
          6992 AROMATIC
           163 SHIKIMATE
L133          0 L13 AND (AROMATIC OR SHIKIMATE)

FILE 'BIOTECHDS'
```

```
          3000 AROMATIC
            72 SHIKIMATE
L134         2 L14 AND (AROMATIC OR SHIKIMATE)

FILE 'BIOSIS'
         27821 AROMATIC
           778 SHIKIMATE
L135         1 L15 AND (AROMATIC OR SHIKIMATE)

FILE 'EMBASE'
         21558 AROMATIC
           175 SHIKIMATE
L136         0 L16 AND (AROMATIC OR SHIKIMATE)

FILE 'HCAPLUS'
        104033 AROMATIC
          1149 SHIKIMATE
L137         2 L17 AND (AROMATIC OR SHIKIMATE)

FILE 'NTIS'
          9982 AROMATIC
             8 SHIKIMATE
L138         0 L18 AND (AROMATIC OR SHIKIMATE)

FILE 'WPIDS'
        121845 AROMATIC
            23 SHIKIMATE
L139         1 L19 AND (AROMATIC OR SHIKIMATE)

TOTAL FOR ALL FILES
L140         7 L20 AND (AROMATIC OR SHIKIMATE)

=> s l20 and (phosphoenolpyruvate or (phospho enol or phosphoenol)(w)pyruvate
or pep)

FILE 'MEDLINE'
          4612 PHOSPHOENOLPYRUVATE
          1845 PHOSPHO
           438 ENOL
            45 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           175 PHOSPHOENOL
         17595 PYRUVATE
           192 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          1950 PEP
L141         3 L11 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'SCISEARCH'
          3379 PHOSPHOENOLPYRUVATE
          1090 PHOSPHO
          3733 ENOL
            36 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           132 PHOSPHOENOL
         10679 PYRUVATE
           155 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          1186 PEP
```

```
L142          3 L12 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'LIFESCI'
           1336 PHOSPHOENOLPYRUVATE
            603 "PHOSPHO"
            156 "ENOL"
             12 PHOSPHO ENOL
                  ("PHOSPHO"(W)"ENOL")
             84 PHOSPHOENOL
           3675 PYRUVATE
             87 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
            505 PEP
L143          3 L13 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'BIOTECHDS'
            220 PHOSPHOENOLPYRUVATE
            120 PHOSPHO
             98 ENOL
              2 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
             29 PHOSPHOENOL
           1060 PYRUVATE
             29 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
            100 PEP
L144          0 L14 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'BIOSIS'
           5521 PHOSPHOENOLPYRUVATE
          54446 PHOSPHO
           1555 ENOL
            134 PHOSPHO ENOL
                  (PHOSPHO(W)ENOL)
           3541 PHOSPHOENOL
          27539 PYRUVATE
           3616 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           2647 PEP
L145          8 L15 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'EMBASE'
           3021 PHOSPHOENOLPYRUVATE
           1256 "PHOSPHO"
            871 "ENOL"
             35 PHOSPHO ENOL
                  ("PHOSPHO"(W)"ENOL")
            130 PHOSPHOENOL
          14236 PYRUVATE
            151 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           1767 PEP
L146          3 L16 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
                OL)(W)PYRUVATE OR PEP)

FILE 'HCAPLUS'
           7965 PHOSPHOENOLPYRUVATE
           4810 PHOSPHO
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         11627 ENOL
            28 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
           409 PHOSPHOENOL
         31559 PYRUVATE
           380 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          3648 PEP
L147         8 L17 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'NTIS'
            33 PHOSPHOENOLPYRUVATE
            34 PHOSPHO
            72 ENOL
             0 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
             5 PHOSPHOENOL
           281 PYRUVATE
             3 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
          1023 PEP
L148         0 L18 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

FILE 'WPIDS'
            48 PHOSPHOENOLPYRUVATE
          2693 PHOSPHO
          1215 ENOL
            57 PHOSPHO ENOL
                 (PHOSPHO(W)ENOL)
            60 PHOSPHOENOL
           771 PYRUVATE
            63 (PHOSPHO ENOL OR PHOSPHOENOL)(W)PYRUVATE
           162 PEP
L149         0 L19 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W)PYRUVATE OR PEP)

TOTAL FOR ALL FILES
L150        28 L20 AND (PHOSPHOENOLPYRUVATE OR (PHOSPHO ENOL OR PHOSPHOEN
               OL)(W) PYRUVATE OR PEP)

=> s l20 and glucose

FILE 'MEDLINE'
        169550 GLUCOSE
L151        17 L11 AND GLUCOSE

FILE 'SCISEARCH'
         85300 GLUCOSE
L152        10 L12 AND GLUCOSE

FILE 'LIFESCI'
         25228 GLUCOSE
L153         4 L13 AND GLUCOSE

FILE 'BIOTECHDS'
         20073 GLUCOSE
L154         7 L14 AND GLUCOSE
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FILE 'BIOSIS'
        177524 GLUCOSE
L155        19 L15 AND GLUCOSE

FILE 'EMBASE'
        133762 GLUCOSE
L156        19 L16 AND GLUCOSE

FILE 'HCAPLUS'
        202454 GLUCOSE
L157        15 L17 AND GLUCOSE

FILE 'NTIS'
          2633 GLUCOSE
L158         0 L18 AND GLUCOSE

FILE 'WPIDS'
         16729 GLUCOSE
L159         0 L19 AND GLUCOSE

TOTAL FOR ALL FILES
L160        91 L20 AND GLUCOSE

=> s (l30 or l50 or l70 or l90 or l130 or l140 or l150 or l160) not 1996/py

FILE 'MEDLINE'
         12907 1996/PY
L161       108 (L21 OR L41 OR L61 OR L81 OR L121 OR L131 OR L141 OR L151)
                NOT 1996/PY

FILE 'SCISEARCH'

        171666 1996/PY
L162        48 (L22 OR L42 OR L62 OR L82 OR L122 OR L132 OR L142 OR L152)
                NOT 1996/PY

FILE 'LIFESCI'
           201 1996/PY
L163        32 (L23 OR L43 OR L63 OR L83 OR L123 OR L133 OR L143 OR L153)
                NOT 1996/PY

FILE 'BIOTECHDS'
          1888 1996/PY
                 (1996/PY)
L164        16 (L24 OR L44 OR L64 OR L84 OR L124 OR L134 OR L144 OR L154)
                NOT 1996/PY

FILE 'BIOSIS'
         45162 1996/PY
L165       112 (L25 OR L45 OR L65 OR L85 OR L125 OR L135 OR L145 OR L155)
                NOT 1996/PY

FILE 'EMBASE'
         63939 1996/PY
L166        81 (L26 OR L46 OR L66 OR L86 OR L126 OR L136 OR L146 OR L156)
                NOT 1996/PY

FILE 'HCAPLUS'
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        112986 1996/PY
L167       152 (L27 OR L47 OR L67 OR L87 OR L127 OR L137 OR L147 OR L157)
                NOT 1996/PY

FILE 'NTIS'
            85 1996/PY
L168        14 (L28 OR L48 OR L68 OR L88 OR L128 OR L138 OR L148 OR L158)
                NOT 1996/PY

FILE 'WPIDS'
        117402 1996/PY
L169         2 (L29 OR L49 OR L69 OR L89 OR L129 OR L139 OR L149 OR L159)
                NOT 1996/PY

TOTAL FOR ALL FILES
L170       565 (L30 OR L50 OR L70 OR L90 OR L130 OR L140 OR L150 OR L160)
                NOT 1996/PY

=> dup rem l170

PROCESSING IS APPROXIMATELY  55% COMPLETE FOR L170
PROCESSING COMPLETED FOR L170
L171        284 DUP REM L170 (281 DUPLICATES REMOVED)

=> d 1-


L171 ANSWER 1 OF 284  MEDLINE                              DUPLICATE 1
TI   Regulation of sugar   ***transport***   via the multiple sugar
     metabolism operon of Streptococcus   ***mutans***   by the
     ***phosphoenolpyruvate***     ***phosphotransferase***   system.
SO   JOURNAL OF BACTERIOLOGY, (1995 Oct) 177 (19) 5704-6.
     Journal code: HH3. ISSN: 0021-9193.
AU   Cvitkovitch D G; Boyd D A; Hamilton I R
AN   96032411      MEDLINE

L171 ANSWER 2 OF 284  SCISEARCH  COPYRIGHT 1996 ISI (R) DUPLICATE 2
TI   USE OF FEEDBACK-RESISTANT THREONINE DEHYDRATASES OF
     CORYNEBACTERIUM-GLUTAMICUM TO   ***INCREASE***     ***CARBON***
     ***FLUX***   TOWARDS L-ISOLEUCINE
SO   APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (DEC 1995) Vol. 61, No. 12,
     pp. 4315-4320.
     ISSN: 0099-2240.
AU   MORBACH S; SAHM H; EGGELING L (Reprint)
AN   95:832703  SCISEARCH

L171 ANSWER 3 OF 284  MEDLINE                              DUPLICATE 3
TI   Sequence, expression, and function of the gene for the
     nonphosphorylating, NADP-dependent glyceraldehyde-3-phosphate
     dehydrogenase of Streptococcus mutans.
SO   JOURNAL OF BACTERIOLOGY, (1995 May) 177 (10) 2622-7.
     Journal code: HH3. ISSN: 0021-9193.
AU   Boyd D A; Cvitkovitch D G; Hamilton I R
AN   95270576      MEDLINE

L171 ANSWER 4 OF 284  MEDLINE                              DUPLICATE 4
TI     ***Glucose***     ***transport***   by a   ***mutant***   of
     Streptococcus   ***mutans***   unable to accumulate sugars via the
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phosphoenolpyruvate ***phosphotransferase*** system.
SO JOURNAL OF BACTERIOLOGY, (1995 May) 177 (9) 2251-8.
Journal code: HH3. ISSN: 0021-9193.
AU Cvitkovitch D G; Boyd D A; Thevenot T; Hamilton I R
AN 95247653 MEDLINE

L171 ANSWER 5 OF 284 MEDLINE
TI Allosteric regulation of the ***glucose*** :H+ symporter of Lactobacillus brevis: cooperative binding of ***glucose*** and HPr(ser-P).
SO JOURNAL OF BACTERIOLOGY, (1995 Apr) 177 (7) 1900-2.
Journal code: HH3. ISSN: 0021-9193.
AU Ye J J; Saier M H Jr
AN 95204363 MEDLINE

L171 ANSWER 6 OF 284 MEDLINE DUPLICATE 5
TI Accelerometer systolic time intervals as fast-response sensors of upright posture in the young.
SO CIRCULATION, (1995 Oct 1) 92 (7) 1849-59.
Journal code: DAW. ISSN: 0009-7322.
AU Ovadia M; Gear K; Thoele D; Marcus F I
AN 95401341 MEDLINE

L171 ANSWER 7 OF 284 MEDLINE DUPLICATE 6
TI Triiodothyronine treatment increases substrate cycling between pyruvate carboxylase and malic enzyme in perfused rat liver.
SO METABOLISM: CLINICAL AND EXPERIMENTAL, (1995 Nov) 44 (11) 1380-3.
Journal code: MUM. ISSN: 0026-0495.
AU Petersen K F; Blair J B; Shulman G I
AN 96067411 MEDLINE

L171 ANSWER 8 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI THE GLOBAL REGULATORY PROTEIN FRUR MODULATES THE DIRECTION OF ***CARBON*** ***FLOW*** IN ESCHERICHIA-COLI
SO MOLECULAR MICROBIOLOGY, (JUN 1995) Vol. 16, No. 6, pp. 1157-1169.
ISSN: 0950-382X.
AU RAMSEIER T M; BLEDIG S; MICHOTEY V; FEGHALI R; SAIER M H (Reprint)
AN 95:535972 SCISEARCH

L171 ANSWER 9 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI Regulation of bacterial sugar-H+ symport by ***phosphoenolpyruvate*** -dependent enzyme I/HPr-mediated phosphorylation.
SO Proceedings of the National Academy of Sciences of the United States of America, (1995) 92/3 (778-782).
ISSN: 0027-8424 CODEN: PNASA6
AU Poolman B.; Knol J.; Mollet B.; Nieuwenhuis B.; Sulter G.
AN 95050091 EMBASE

L171 ANSWER 10 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI ***GLUCOSE*** - ***TRANSPORT*** BY A ***MUTANT*** OF STREPTOCOCCUS- ***MUTANS*** DEFECTIVE IN THE ***PHOSPHOENOLPYRUVATE*** - SUGAR ***PHOSPHOTRANSFERASE*** SYSTEM
SO JOURNAL OF DENTAL RESEARCH, (1995) Vol. 74, Sp. iss. SI, pp. 547.
ISSN: 0022-0345.
AU CVITKOVITCH D (Reprint); BOYD D; HAMILTON I R
AN 95:305985 SCISEARCH

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L171 ANSWER 11 OF 284  MEDLINE                          DUPLICATE 7
TI   Cooperative binding of lactose and the phosphorylated phosphocarrier
     protein HPr(Ser-P) to the lactose/H+ symport permease of
     Lactobacillus brevis.
SO   PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES
     OF AMERICA, (1995 Jan 17) 92 (2) 417-21.
     Journal code: PV3. ISSN: 0027-8424.
AU   Ye J J; Saier M H Jr
AN   95132610     MEDLINE

L171 ANSWER 12 OF 284  SCISEARCH  COPYRIGHT 1996 ISI (R)DUPLICATE 8
TI   THE INFLUENCE OF OZONE AND NUTRITION ON DELTA-C-13 IN BETULA-PENDULA
SO   OECOLOGIA, (SEP 1995) Vol. 103, No. 4, pp. 397-406.
     ISSN: 0029-8549.
AU   SAURER M; MAURER S; MATYSSEK R (Reprint); LANDOLT W; GUNTHARDTGOERG
     M S; SIEGENTHALER U
AN   95:663527  SCISEARCH

L171 ANSWER 13 OF 284  MEDLINE                          DUPLICATE 9
TI   In Saccharomyces cerevisiae deletion of phosphoglucose isomerase can
     be suppressed by increased activities of enzymes of the hexose
     monophosphate pathway.
SO   MICROBIOLOGY, (1995 Feb) 141 ( Pt 2) 385-91.
     Journal code: BXW. ISSN: 1350-0872.
AU   Dickinson J R; Sobanski M A; Hewlins M J
AN   95219094     MEDLINE

L171 ANSWER 14 OF 284  SCISEARCH  COPYRIGHT 1996 ISI (R)
TI   CLONING AND EXPRESSION OF THE GENE ENCODING    ***GLUCOSE***
     PERMEASE OF THE    ***PHOSPHOTRANSFERASE***    SYSTEM FROM
     BREVIBACTERIUM-FLAVUM IN ESCHERICHIA-COLI
SO   JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY, (AUG 1995) Vol. 5, No. 4,
     pp. 188-193.
     ISSN: 1017-7825.
AU   KWON I L (Reprint); LEE K N; LEE J K; PAN J G; OH T K; LEE H H; YOON
     K H
AN   95:591795  SCISEARCH

L171 ANSWER 15 OF 284  SCISEARCH  COPYRIGHT 1996 ISI (R)DUPLICATE 10
TI   HOW NEUTRAL RED    ***MODIFIED***      ***CARBON***    AND ELECTRON
     ***FLOW***    IN CLOSTRIDIUM-ACETOBUTYLICUM GROWN IN CHEMOSTAT
     CULTURE AT NEUTRAL PH
SO   FEMS MICROBIOLOGY REVIEWS, (FEB 1995) Vol. 16, No. 2-3, pp. 151-162.
     ISSN: 0168-6445.
AU   GIRBAL L; VASCONCELOS I; SAINTAMANS S; SOUCAILLE P (Reprint)
AN   95:184298  SCISEARCH

L171  ANSWER 16 OF 284  BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI    Deviation of    ***carbon***      ***flux***    from ethanol towards
      ***alternative***   electron acceptors in engineered Saccharomyces
      cerevisiae yeast strains;
         metabolic engineering; Lactobacillus casei lactate-dehydrogenase
         and glycerol-dehydrogenase overexpression (conference abstract)
SO    Yeast; (1995) 11, Spec.Iss., S537
      CODEN: YESTE3     ISSN:  0749-503X
      17th International Conference on Yeast Genetics and Molecular
      Biology, Lisbon, Portugal, 10-16 June, 1995.
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AU   Dequin S; Michnick S; Roustan J L; Barre P
AN   96-01731 BIOTECHDS

L171 ANSWER 17 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI   Quinic acid benzoquinone and hydroquinone production by Escherichia coli AB2848aroD/pKD136 using plasmid pTW6135 and plasmid pTW8090A; application in myoinositol-1,4,5-triphosphate and FK-506 production, and in the food and agrochemical industry
AN   94-07381 BIOTECHDS
PI   WO 9408015 14 Apr 1994

L171 ANSWER 18 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI   Acetate P gene;
Escherichia coli acetate- ***phosphotransferase*** gene characterization, DNA sequence and encoded protein sequence; reduced low pH sensitivity
AN   94-04763 BIOTECHDS
PI   JP 06014781 25 Jan 1994

L171 ANSWER 19 OF 284 MEDLINE DUPLICATE 11
TI   The role of phosphoenolpyruvate in the simultaneous uptake of fructose and 2-deoxyglucose by Escherichia coli.
SO   PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1994 Nov 8) 91 (23) 11080-3.
Journal code: PV3. ISSN: 0027-8424.
AU   Kornberg H; Lambourne L T
AN   95062209 MEDLINE

L171 ANSWER 20 OF 284 MEDLINE DUPLICATE 12
TI   Characterization of a ***glucose*** ***transport*** system in Vibrio parahaemolyticus.
SO   JOURNAL OF BACTERIOLOGY, (1994 Dec) 176 (23) 7378-82.
Journal code: HH3. ISSN: 0021-9193.
AU   Sarker R I; Ogawa W; Tsuda M; Tanaka S; Tsuchiya T
AN   95050324 MEDLINE

L171 ANSWER 21 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Loss of protein kinase-catalyzed phosphorylation of HPr, a phosphocarrier protein of the ***phosphotransferase*** system, by ***mutation*** of the ptsH gene confers catabolite repression resistance to several catabolic genes of Bacillus subtilis.
SO   J. BACTERIOL., (1994) 176/11 (3336-3344).
ISSN: 0021-9193 CODEN: JOBAAY
AU   Deutscher J.; Reizer J.; Fischer C.; Galinier A.; Saier M.H. Jr.; Steinmetz M.
AN   94166925 EMBASE

L171 ANSWER 22 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI Vesicles prepared from Streptococcus mutans demonstrate the presence of a second ***glucose*** ***transport*** system.
SO Microbiology (Reading) 140 (10). 1994. 2639-2648. ISSN: 1350-0872
AU Buckley N D; Hamilton I R
AN 94:551678 BIOSIS

L171 ANSWER 23 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   LIPID-METABOLISM IN ADIPOSE-TISSUE DURING LACTATION - A MODEL OF A METABOLIC CONTROL-SYSTEM
SO   JOURNAL OF NUTRITION, (AUG 1994) Vol. 124, No. 8, Supp. S, pp.

S1383-S1391.
ISSN: 0022-3166.
AU MCNAMARA J P (Reprint)
AN 94:523355 SCISEARCH

L171 ANSWER 24 OF 284 MEDLINE DUPLICATE 13
TI Genetic regulation of fructosyltransferase in Streptococcus mutans.
SO INFECTION AND IMMUNITY, (1994 Apr) 62 (4) 1241-51.
Journal code: GO7. ISSN: 0019-9567.
AU Kiska D L; Macrina F L
AN 94178930 MEDLINE

L171 ANSWER 25 OF 284 MEDLINE DUPLICATE 14
TI Sequence and expression of the genes for HPr (ptsH) and enzyme I (ptsI) of the ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** ***transport*** system from Streptococcus ***mutans*** .
SO INFECTION AND IMMUNITY, (1994 Apr) 62 (4) 1156-65.
Journal code: GO7. ISSN: 0019-9567.
AU Boyd D A; Cvitkovitch D G; Hamilton I R
AN 94178918 MEDLINE

L171 ANSWER 26 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 15
TI POSITIVE SELECTION FOR RESISTANCE TO 2-DEOXYGLUCOSE GIVES RISE, IN STREPTOCOCCUS-SALIVARIUS, TO 7 CLASSES OF PLEIOTROPIC MUTANTS, INCLUDING PTSH AND PTSI MISSENSE MUTANTS
SO MOLECULAR MICROBIOLOGY, (SEP 1994) Vol. 13, No. 6, pp. 1101-1109.
ISSN: 0950-382X.
AU GAUTHIER L; THOMAS S; GAGNON G; FRENETTE M; TRAHAN L; VADEBONCOEUR C (Reprint)
AN 94:608506 SCISEARCH

L171 ANSWER 27 OF 284 MEDLINE DUPLICATE 16
TI Molecular analysis of the aspartate kinase-homoserine dehydrogenase gene from Arabidopsis thaliana.
SO PLANT MOLECULAR BIOLOGY, (1994 Mar) 24 (6) 835-51.
Journal code: A60. ISSN: 0167-4412.
AU Ghislain M; Frankard V; Vandenbossche D; Matthews B F; Jacobs M
AN 94264241 MEDLINE

L171 ANSWER 28 OF 284 MEDLINE DUPLICATE 17
TI The ***glucose*** -starvation stimulon of Escherichia coli: induced and repressed synthesis of enzymes of central metabolic pathways and role of acetyl phosphate in gene expression and starvation survival.
SO MOLECULAR MICROBIOLOGY, (1994 Jun) 12 (5) 833-43.
Journal code: MOM. ISSN: 0950-382X.
AU Nystrom T
AN 94328934 MEDLINE

L171 ANSWER 29 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 18
TI INORGANIC-PHOSPHATE (PI) ENHANCEMENT OF DARK RESPIRATION IN THE PI-LIMITED GREEN-ALGA SELENASTRUM-MINUTUM - INTERACTIONS BETWEEN H+/PI COTRANSPORT, THE PLASMALEMMA H+-ATPASE, AND DARK RESPIRATORY CARBON FLOW
SO PLANT PHYSIOLOGY, (FEB 1994) Vol. 104, No. 2, pp. 629-637.
ISSN: 0032-0889.
AU GAUTHIER D A; TURPIN D H (Reprint)

AN   94:145206 SCISEARCH

L171 ANSWER 30 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   REGULATION OF HEXOSE-PHOSPHATE CYCLE DETERMINES GLUCOSE AND FRUCTOSE ACCUMULATION IN CHERIMOYA (ANNONA-CHERIMOLA MILL) DURING RIPENING
SO   JOURNAL OF PLANT PHYSIOLOGY, (OCT 1994) Vol. 144, No. 4-5, pp. 569-575.
ISSN: 0176-1617.
AU   SOLA M D (Reprint); GUTIERREZ M; VARGAS A M
AN   94:758524 SCISEARCH

L171 ANSWER 31 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 19
TI   CARBON-ISOTOPE COMPOSITION OF BIOCHEMICAL FRACTIONS AND THE REGULATION OF CARBON BALANCE IN LEAVES OF THE C-3-CRASSULACEAN ACID METABOLISM INTERMEDIATE CLUSIA-MINOR L GROWING IN TRINIDAD
SO   PLANT PHYSIOLOGY, (OCT 1994) Vol. 106, No. 2, pp. 493-501.
ISSN: 0032-0889.
AU   BORLAND A M (Reprint); GRIFFITHS H; BROADMEADOW M S J; FORDHAM M C; MAXWELL C
AN   94:681915 SCISEARCH

L171 ANSWER 32 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI The levels of yeast gluconeogenic mRNAs respond to environmental factors.
SO European Journal of Biochemistry 224 (2). 1994. 473-481. ISSN: 0014-2956
AU Mercado J J; Smith R; Sagliocco F A; Brown A J P; Gancedo J M
AN 94:499331 BIOSIS

L171 ANSWER 33 OF 284 MEDLINE   DUPLICATE 20
TI   Alteration of the biochemical valves in the central metabolism of Escherichia coli.
SO   ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (1994 Nov 30) 745 21-34.
Ref: 44
Journal code: 5NM. ISSN: 0077-8923.
AU   Liao J C; Chao Y P; Patnaik R
AN   95133932   MEDLINE

L171 ANSWER 34 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   PEP-II: An asymmetric B factory. Conceptual design report.
NR   DE94004812/XAD; LBL-PUB-5379; SLAC-418; CALT-68-1869; UCRL-ID-114055
641 p.   NTIS Prices : PC A99/MF A06
Notes : Sponsored by Department of Energy, Washington, DC.
PD   Jun 1993
AN   94(13):1271   NTIS

L171 ANSWER 35 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI   Selective fermentation of pentose;
using a Pediococcus halophilus pentose auxotroph mutant
AN   93-07072 BIOTECHDS
PI   JP 05049440 2 Mar 1993

L171 ANSWER 36 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI   Selective fermentation of pentose;
using a Pediococcus halophilus pentose auxotroph mutant
AN   93-07073 BIOTECHDS
PI   JP 05049441 2 Mar 1993

L171 ANSWER 37 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI Control of gluconeogenic growth by pps and pck in Escherichia coli.
SO Journal of Bacteriology 175 (21). 1993. 6939-6944. ISSN: 0021-9193
AU Chao Y-P; Patnaik R; Roof W D; Young R F; Liao J C
AN 94:23951 BIOSIS

L171 ANSWER 38 OF 284 MEDLINE DUPLICATE 22
TI Alteration of growth yield by overexpression of
phosphoenolpyruvate carboxylase and
phosphoenolpyruvate carboxykinase in Escherichia coli.
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1993 Dec) 59 (12) 4261-5.
Journal code: 6K6. ISSN: 0099-2240.
AU Chao Y P; Liao J C
AN 94113744 MEDLINE

L171 ANSWER 39 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI INDUCTION OF PYROPHOSPHATE-DEPENDENT PHOSPHOFRUCTOKINASE IN
WATERMELON (CITRULLUS-LANATUS) COTYLEDONS COINCIDES WITH
INSUFFICIENT CYTOSOLIC D-FRUCTOSE-1,6-BISPHOSPHATE
1-PHOSPHOHYDROLASE TO SUSTAIN GLUCONEOGENESIS
SO PLANT PHYSIOLOGY, (APR 1993) Vol. 101, No. 4, pp. 1385-1390.
ISSN: 0032-0889.
AU BOTHA A M; BOTHA F C (Reprint)
AN 93:236375 SCISEARCH

L171 ANSWER 40 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI MOLECULAR APPROACHES TO THE MANIPULATION OF CARBON ALLOCATION IN
PLANTS
SO CANADIAN JOURNAL OF BOTANY-REVUE CANADIENNE DE BOTANIQUE, (JUN 1993)
Vol. 71, No. 6, pp. 765-778.
ISSN: 0008-4026.
AU BLAKELEY S D; DENNIS D T (Reprint)
AN 93:526589 SCISEARCH

L171 ANSWER 41 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI ***Modified*** ***carbon*** ***flux*** during oxygen
limited growth of Corynebacterium glutamicum and the consequences
for amino acid overproduction;
cometabolism of sugar and organic acid; consequences for amino
acid, e.g. glutamic acid and alanine, production
SO Biotechnol.Lett.; (1993) 15, 5, 449-54
CODEN: BILED3
AU Dominguez H; Nezondet C; *Lindley N D; Cocaign M
AN 93-08193 BIOTECHDS

L171 ANSWER 42 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 23
TI EVIDENCE FOR AN ALTERNATIVE ROUTE OF ***PHOSPHOENOLPYRUVATE***
METABOLISM IN MATURE NUCLEATED RANA-RIDIBUNDA ERYTHROCYTES
SO JOURNAL OF EXPERIMENTAL ZOOLOGY, (15 MAR 1993) Vol. 265, No. 4, pp.
422-426.
ISSN: 0022-104X.
AU KALOYIANNI M; BEIS I (Reprint)
AN 93:137752 SCISEARCH

L171 ANSWER 43 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Effects of N-acetylglucosamine on carbohydrate fermentation by
Streptococcus mutans NCTC 10449 and Streptococcus sobrinus SL-1
SO Infect. Immun. (1993), 61(1), 295-302

CODEN: INFIBR; ISSN: 0019-9567
AU Homer, Karen A.; Patel, Rupal; Beighton, David
AN 1993:97768 HCAPLUS
DN 118:97768

L171 ANSWER 44 OF 284 LIFESCI COPYRIGHT 1996 CSA
TI The use of T bag synthesis with paper discs as the solid phase in epitope mapping studies
SO J. IMMUNOL. METHODS, (1993) vol. 161, no. 2, pp. 177-186.
ISSN: 0022-1759.
AU van't Hof, W.; van der Berg, M.; Aalberse, R.C.*
AN 94:29341 LIFESCI

L171 ANSWER 45 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 24
TI EFFECT OF WITHDRAWAL OF PHOSPHORUS ON NITRATE ASSIMILATION AND PEP CARBOXYLASE ACTIVITY IN TOMATO
SO PLANT AND SOIL, (JUL 1993) Vol. 154, No. 1, pp. 111-117.
ISSN: 0032-079X.
AU PILBEAM D J (Reprint); CAKMAK I; MARSCHNER H; KIRKBY E A
AN 93:679157 SCISEARCH

L171 ANSWER 46 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI Genetic element comprising an expression vector and transketolase gene;
metabolic engineering by ***increasing*** ***carbon*** ***flow*** into common ***aromatic*** pathway using plasmid pKD112A or plasmid pKD130A, containing a DAHP-synthase or DHQ-synthase gene
AN 93-02402 BIOTECHDS
PI US 5168056 1 Dec 1992

L171 ANSWER 47 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 26
TI GAUGE FOR NONDESTRUCTIVE MEASUREMENT OF THE INTERNAL-PRESSURE IN POWDER-FILLED EVACUATED PANEL SUPERINSULATION
SO REVIEW OF SCIENTIFIC INSTRUMENTS, (DEC 1992) Vol. 63, No. 12, pp. 5774-5779.
ISSN: 0034-6748.
AU KOLLIE T G (Reprint); THACKER L H
AN 92:715395 SCISEARCH

L171 ANSWER 48 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Analysis of mutations that uncouple ***transport*** from phosphorylation in enzyme IIGlc of the Escherichia coli ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** system
SO J. Bacteriol. (1992), 174(9), 2843-50
CODEN: JOBAAY; ISSN: 0021-9193
AU Ruijter, G. J. G.; Van Meurs, G.; Verwey, M. A.; Postma, P. W.; Van Dam, K.
AN 1992:485851 HCAPLUS
DN 117:85851

L171 ANSWER 49 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 27
TI KINETICS AND PHYSIOLOGICAL IMPLICATIONS OF THE GROWTH-BEHAVIOR OF EUBACTERIUM-LIMOSUM ON ***GLUCOSE*** METHANOL MIXTURES
SO JOURNAL OF GENERAL MICROBIOLOGY, (MAY 1992) Vol. 138, Part 5, pp. 979-985.
ISSN: 0022-1287.

AU   LOUBIERE P; GROS E; PAQUET V; LINDLEY N D (Reprint)
AN   92:314240 SCISEARCH

L171 ANSWER 50 OF 284 LIFESCI   COPYRIGHT 1996 CSA
TI   Kinetics and physiological implications of the growth behaviour of
     Eubacterium limosum on ***glucose*** /methanol mixtures.
SO   J. GEN. MICROBIOL., (1992) vol. 138, no. 5, pp. 979-985.
AU   Loubiere, P.; Gros, E.; Paquet, V.; Lindley, N.D.
AN   93:21666 LIFESCI

L171 ANSWER 51 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 28
TI   THE SHORT-TERM EFFECT OF NO3- AND NH3 ASSIMILATION ON SUCROSE
     SYNTHESIS IN LEAVES
SO   JOURNAL OF PLANT PHYSIOLOGY, (JAN 1992) Vol. 139, No. 3, pp.
     361-368.
     ISSN: 0176-1617.
AU   CHAMPIGNY M L (Reprint); BRAUER M; BISMUTH E; MANH C T; SIEGL G; QUY
     L V; STITT M
AN   92:87370 SCISEARCH

L171 ANSWER 52 OF 284 MEDLINE   DUPLICATE 29
TI   ***Mutational*** analysis of the enzyme IIIGlc of the
     phosphoenolpyruvate ***phosphotransferase*** system in
     Escherichia coli.
SO   RESEARCH IN MICROBIOLOGY, (1992 Mar-Apr) 143 (3) 251-61.
     Journal code: R6F. ISSN: 0923-2508.
AU   Zeng G Q; De Reuse H; Danchin A
AN   93079433   MEDLINE

L171 ANSWER 53 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Respiratory carbon flow to nitrogen assimilation
SO   Mol., Biochem. Physiol. Aspects Plant Respir. (1992), 149-65.
     Editor(s): Edited by Lambers, H.; Van der Plas, L. H. W. Publisher:
     SPB Acad. Publ., The Hague, Neth.
     CODEN: 60FCA7
AU   Weger, Harold G.; Vanlerberghe, Gregory C.; Guy, Robert D.; Turpin,
     David H.
AN   1994:553217 HCAPLUS
DN   121:153217

L171 ANSWER 54 OF 284 MEDLINE   DUPLICATE 30
TI   Factors affecting the manganese and iron activation of the
     phosphoenolpyruvate carboxykinase isozymes from rabbit.
SO   BIOCHIMICA ET BIOPHYSICA ACTA, (1992 Dec 8) 1156 (1) 85-91.
     Journal code: A0W. ISSN: 0006-3002.
AU   Lambeth D O; Muhonen W W; Jacoby G H; Ray P D
AN   93112659   MEDLINE

L171 ANSWER 55 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   Asymmetric B factory based on PEP. Conceptual design report.
NR   DE91010911/XAD; LBL-PUB-5303; SLAC-372; CALT-68-1715; UCRL-ID-106426
     506 p.   NTIS Prices : PC A22/MF A03
     Notes : Sponsored by Department of Energy, Washington, DC.
PD   Feb 1991
AN   91(17):1151   NTIS

L171 ANSWER 56 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   1990 Toronto Personal Exposure Pilot (PEP) study. (Report no.

ARB-207-90.)
NR MIC-92-00810/XAD; ISBN-0-7729-7962-6
70 p. NTIS Prices : PC E07/MF E01
PD 1991
AU Bell, R. W.
AN 92(10):1545 NTIS

L171 ANSWER 57 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Effect of light and nitrate on wheat leaf ***phosphoenolpyruvate*** carboxylase activity. Evidence for covalent modulation of the C3 enzyme
SO Plant Physiol. (1991), 97(4), 1476-82
CODEN: PLPHAY; ISSN: 0032-0889
AU Le Van Quy; Foyer, Christine; Champigny, Marie Luise
AN 1992:102745 HCAPLUS
DN 116:102745

L171 ANSWER 58 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Enzyme distribution between the cortex and the infected region of soybean nodules
SO J. Exp. Bot. (1991), 42(241), 961-7
CODEN: JEBOA6; ISSN: 0022-0957
AU Gordon, A. J.
AN 1991:579569 HCAPLUS
DN 115:179569

L171 ANSWER 59 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI EFFECT OF GROWTH-RATE AND PH ON INTRACELLULAR LEVELS AND ACTIVITIES OF THE COMPONENTS OF THE ***PHOSPHOENOLPYRUVATE*** -SUGAR ***PHOSPHOTRANSFERASE*** SYSTEM IN STREPTOCOCCUS- ***MUTANS*** INGBRITT
SO INFECTION AND IMMUNITY, (1991) Vol. 59, No. 3, pp. 900-906.
AU VADEBONCOEUR C; STMARTIN S; BROCHU D; HAMILTON I R (Reprint)
AN 91:128682 SCISEARCH

L171 ANSWER 60 OF 284 MEDLINE
TI Amplification of three threonine biosynthesis genes in Corynebacterium glutamicum and its influence on ***carbon*** ***flux*** in different strains.
SO APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (1991 Feb) 34 (5) 617-22.
Journal code: AMC. ISSN: 0175-7598.
AU Eikmanns B J; Metzger M; Reinscheid D; Kircher M; Sahm H
AN 91265081 MEDLINE

L171 ANSWER 61 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 31
TI ***PHOSPHOTRANSFERASE*** -DEPENDENT ***GLUCOSE*** - ***TRANSPORT*** IN CORYNEBACTERIUM-GLUTAMICUM
SO JOURNAL OF APPLIED BACTERIOLOGY, (1991) Vol. 71, No. 6, pp. 517-523.
AU MALIN G M; BOURD G I (Reprint)
AN 91:672204 SCISEARCH

L171 ANSWER 62 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI IDENTIFICATION OF 2 FRUCTOSE ***TRANSPORT*** AND PHOSPHORYLATION PATHWAYS IN XANTHOMONAS-CAMPESTRIS PV CAMPESTRIS
SO MOLECULAR & GENERAL GENETICS, (1991) Vol. 227, No. 3, pp. 465-472.
AU DECRECYLAGARD V; LEJEUNE P; BOUVET O M M; DANCHIN A (Reprint)
AN 91:434375 SCISEARCH

L171 ANSWER 63 OF 284 MEDLINE DUPLICATE 32
TI Metabolite production and growth efficiency.
SO ANTONIE VAN LEEUWENHOEK, (1991 Oct-Nov) 60 (3-4) 293-311. Ref: 48
Journal code: 6JE. ISSN: 0003-6072.
AU Linton J D
AN 92222298 MEDLINE

L171 ANSWER 64 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 33
TI NON-LIGHT-DEPENDENT SHIKIMATE PATHWAY IN PLASTIDS FROM PEA ROOTS
SO BOTANICA ACTA, (1991) Vol. 104, No. 3, pp. 240-244.
AU LEUSCHNER C; SCHULTZ G (Reprint)
AN 91:446085 SCISEARCH

L171 ANSWER 65 OF 284 MEDLINE DUPLICATE 34
TI A unique zinc finger protein is associated preferentially with
active ecdysone-responsive loci in Drosophila.
SO GENES AND DEVELOPMENT, (1991 Feb) 5 (2) 188-200.
Journal code: FN3. ISSN: 0890-9369.
AU Amero S A; Elgin S C; Beyer A L
AN 91138953 MEDLINE

L171 ANSWER 66 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI INTRACELLULAR XYLITOL-PHOSPHATE HYDROLYSIS AND EFFLUX OF XYLITOL IN
STREPTOCOCCUS-SOBRINUS.
SO ORAL MICROBIOL IMMUNOL 6 (1). 1991. 41-50. CODEN: OMIMEE ISSN:
0902-0055
AU TRAHAN L; NERON S; BAREIL M
AN 91:179216 BIOSIS

L171 ANSWER 67 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI DNA fragment encoding phosphoenolpyruvate-carboxylase;
Corynebacterium glutamicum DNA sequence; plasmid pDM2, plasmid
pDM6 expression in Brevibacterium, Corynebacterium spp. for
enhanced L-lysine, L-threonine, L-isoleucine production
AN 90-07064 BIOTECHDS
PI EP 358940 21 Mar 1990

L171 ANSWER 68 OF 284 MEDLINE DUPLICATE 35
TI Regulation of the maltose ***transport*** system of Escherichia
coli by the ***glucose*** -specific enzyme III of the
phosphoenolpyruvate -sugar ***phosphotransferase***
system. Characterization of inducer exclusion-resistant
mutants and reconstitution of inducer exclusion in
proteoliposomes.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Dec 5) 265 (34) 21005-10.
Journal code: HIV. ISSN: 0021-9258.
AU Dean D A; Reizer J; Nikaido H; Saier M H Jr
AN 91065907 MEDLINE

L171 ANSWER 69 OF 284 MEDLINE DUPLICATE 36
TI Identification of catalytic residues in the beta-glucoside permease
of Escherichia coli by site-specific mutagenesis and demonstration
of interdomain cross-reactivity between the beta-glucoside and
glucose systems.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Aug 15) 265 (23) 13464-71.
Journal code: HIV. ISSN: 0021-9258.
AU Schnetz K; Sutrina S L; Saier M H Jr; Rak B
AN 90337946 MEDLINE

L171 ANSWER 70 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI Genomic direction of synthesis during plasmid-based biocatalysis; 3-dehydroshikimic acid over-production; Escherichia coli aroE mutant transformation using vector plasmid pKD130A
SO J.Am.Chem.Soc.; (1990) 112, 26, 9630-33
CODEN: JACSAT
AU Draths K M; *Frost J W
AN 91-02823 BIOTECHDS

L171 ANSWER 71 OF 284 LIFESCI COPYRIGHT 1996 CSA DUPLICATE 37
TI Molecular, kinetic, and immunological properties of the 6-phosphofructokinase from the green alga Selenastrum minutum . Activation during biosynthetic ***carbon*** ***flow*** .
SO PLANT PHYSIOL., (1990) vol. 93, no. 3, pp. 871-879.
AU Botha, F.C.; Turpin, D.H.
AN 90:34081 LIFESCI

L171 ANSWER 72 OF 284 MEDLINE DUPLICATE 38
TI Levanase operon of Bacillus subtilis includes a fructose-specific phosphotransferase system regulating the expression of the operon.
SO JOURNAL OF MOLECULAR BIOLOGY, (1990 Aug 5) 214 (3) 657-71.
Journal code: J6V. ISSN: 0022-2836.
AU Martin-Verstraete I; Debarbouille M; Klier A; Rapoport G
AN 90355183 MEDLINE

L171 ANSWER 73 OF 284 MEDLINE
TI Fructose-2,6-bisphosphate in control of hepatic gluconeogenesis. From metabolites to molecular genetics [published erratum appears in Diabetes Care 1990 Oct;13(10):1098].
SO DIABETES CARE, (1990 Jun) 13 (6) 582-99. Ref: 138
Journal code: EAG. ISSN: 0149-5992.
AU Pilkis S J; el-Maghrabi M R; Claus T H
AN 90291869 MEDLINE

L171 ANSWER 74 OF 284 MEDLINE DUPLICATE 39
TI Non-PTS uptake and subsequent metabolism of ***glucose*** in Pediococcus halophilus as demonstrated with a double ***mutant*** defective in ***phosphoenolpyruvate*** :mannose ***phosphotransferase*** system and in phosphofructokinase.
SO ARCHIVES OF MICROBIOLOGY, (1990) 153 (6) 537-40.
Journal code: 7YN. ISSN: 0302-8933.
AU Abe K; Uchida K
AN 90314660 MEDLINE

L171 ANSWER 75 OF 284 LIFESCI COPYRIGHT 1996 CSA
TI Production of active phosphoenolpyruvate carboxylase of Zea mays in Escherichia coli encoded by a full-length cDNA.
SO AGRIC. BIOL. CHEM., (1990) vol. 54, no. 1, pp. 241-243.
AU Yanagisawa, S.; Izui, K.
AN 90:65687 LIFESCI

L171 ANSWER 76 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 40
TI REGULATION OF CARBON PARTITIONING TO RESPIRATION DURING DARK AMMONIUM ASSIMILATION BY THE GREEN ALGA SELENASTRUM-MINUTUM.
SO PLANT PHYSIOL (BETHESDA) 93 (1). 1990. 166-175. CODEN: PLPHAY ISSN: 0032-0889
AU TURPIN D H; BOTHA F C; SMITH R G; FEIL R; HORSEY A K; VANLERBERGHE G

C
AN 90:336525 BIOSIS

L171 ANSWER 77 OF 284 MEDLINE DUPLICATE 41
TI The role of amino acids in the energy generating pathways of Litomosoides carinii.
SO MOLECULAR AND BIOCHEMICAL PARASITOLOGY, (1990 Jun) 41 (1) 115-24.
Journal code: NOR. ISSN: 0166-6851.
AU Davies K P; Kohler P
AN 90348710 MEDLINE

L171 ANSWER 78 OF 284 MEDLINE DUPLICATE 42
TI [Features of the effects of disaccharide structure of saccharose on kinetic parameters of hepatic lipid synthesis from ***glucose*** (mechanism of disaccharide effect)].
Osobennosti vliianiia disakharidnoi struktury sakharozy na kineticheskie parametry sinteza lipidov pecheni iz gliukozy (k voprosu o mekhanizme disakharidnogo effekta).
SO VOPROSY PITANIIA, (1990 Sep-Oct) (5) 35-9.
Journal code: XK4. ISSN: 0042-8833.
AU Virovets O A; Shpitonkov M I; Sokolov A I; Gapparov M M
AN 91112045 MEDLINE

L171 ANSWER 79 OF 284 MEDLINE DUPLICATE 43
TI Binding of nucleoside triphosphates, inorganic phosphate, and other polyanionic ligands to the N-terminal region of rat brain hexokinase: relationship to regulation of hexokinase activity by antagonistic interactions between ***glucose*** 6-phosphate and inorganic phosphate.
SO ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1990 Feb 15) 277 (1) 26-34.
Journal code: 6SK. ISSN: 0003-9861.
AU White T K; Wilson J E
AN 90165471 MEDLINE

L171 ANSWER 80 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Glucocorticosteroids increase leucine oxidation and impair leucine balance in humans
SO Am. J. Physiol. (1989), 257(5, Pt. 1), E712-E721
CODEN: AJPHAP; ISSN: 0002-9513
AU Beaufrere, Bernard; Horber, Fritz F.; Schwenk, W. Frederick; Marsh, H. Michael; Matthews, Dwight; Gerich, John E.; Haymond, Morey W.
AN 1990:16450 HCAPLUS
DN 112:16450

L171 ANSWER 81 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Preparation of phosphoenolpyruvate from D-(-)-3-phosphoglyceric acid for use in regeneration of ATP
SO J. Am. Chem. Soc. (1989), 111(24), 8920-1
CODEN: JACSAT; ISSN: 0002-7863
AU Simon, Ethan S.; Grabowski, Sven; Whitesides, George M.
AN 1989:628457 HCAPLUS
DN 111:228457

L171 ANSWER 82 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 44
TI THE REGULATION OF EXOPOLYSACCHARIDE PRODUCTION AND OF ENZYMES INVOLVED IN C-1 ASSIMILATION IN METHYLOPHILUS-METHYLOTROPHUS.
SO J GEN MICROBIOL 135 (11). 1989. 2859-2868. CODEN: JGMIAN ISSN:

0022-1287
AU SOUTHGATE G; GOODWIN P M
AN 90:53163 BIOSIS

L171 ANSWER 83 OF 284 LIFESCI COPYRIGHT 1996 CSA DUPLICATE 45
TI Anaerobic carbon metabolism by the tricarboxylic acid cycle: Evidence for partial oxidative and reductive pathways during dark ammonium assimilation.
SO PLANT PHYSIOL., (1989) vol. 91, no. 4, pp. 1551-1557.
AU Vanlerberghe, G.C.; Horsey, A.K.; Weger, H.G.; Turpin, D.H.
AN 89:98266 LIFESCI

L171 ANSWER 84 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 46
TI BANANA RIPENING IMPLICATIONS OF CHANGES IN GLYCOLYTIC INTERMEDIATE CONCENTRATIONS GLYCOLYTIC AND GLUCONEOGENIC CARBON FLUX AND FRUCTOSE 2 6-BISPHOSPHATE CONCENTRATION.
SO PLANT PHYSIOL (BETHESDA) 91 (4). 1989. 1436-1444. CODEN: PLPHAY ISSN: 0032-0889
AU BEAUDRY R M; SEVERSON R F; BLACK C C; KAYS S J
AN 90:114014 BIOSIS

L171 ANSWER 85 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 47
TI INORGANIC CARBON DIFFUSION BETWEEN C-4 MESOPHYLL AND BUNDLE SHEATH CELLS DIRECT BUNDLE SHEATH CARBON DIOXIDE ASSIMILATION IN INTACT LEAVES IN THE PRESENCE OF AN INHIBITOR OF THE C-4 PATHWAY.
SO PLANT PHYSIOL (BETHESDA) 91 (4). 1989. 1356-1363. CODEN: PLPHAY ISSN: 0032-0889
AU JENKINS C L D; FURBANK R T; HATCH M D
AN 90:113975 BIOSIS

L171 ANSWER 86 OF 284 MEDLINE DUPLICATE 48
TI Suppression of focus formation by bovine papillomavirus-transformed cells by contact with non-transformed cells: involvement of sugar(s) and phosphorylation.
SO INTERNATIONAL JOURNAL OF CANCER, (1989 Nov 15) 44 (5) 885-91. Journal code: GQU. ISSN: 0020-7136.
AU Yoshikura H
AN 90061463 MEDLINE

L171 ANSWER 87 OF 284 MEDLINE DUPLICATE 49
TI Glucocorticosteroids increase leucine oxidation and impair leucine balance in humans.
SO AMERICAN JOURNAL OF PHYSIOLOGY, (1989 Nov) 257 (5 Pt 1) E712-21. Journal code: 3U8. ISSN: 0002-9513.
AU Beaufrere B; Horber F F; Schwenk W F; Marsh H M; Matthews D; Gerich J E; Haymond M W
AN 90087050 MEDLINE

L171 ANSWER 88 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI DARK-LIGHT MODULATION OF PYROPHOSPHATE-DEPENDENT PHOSPHOFRUCTOKINASE FROM PINEAPPLE LEAVES.
SO ACTA PHYTOPHYSIOL SIN 15 (1). 1989. 88-92. CODEN: CWSPDA ISSN: 0257-4829
AU WU M-X; ZHA J-J; SHI J-N; BLACK C C
AN 90:113787 BIOSIS

L171 ANSWER 89 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI Glucocorticosteroids increase leucine oxidation and impair leucine

balance in humans.
SO AM. J. PHYSIOL., ENDOCRINOL. METABOL., (1989) 257/5 (20/5) (E712-E721).
ISSN: 0002-9513 CODEN: AJPMD
AU Beaufrere B.; Horber F.F.; Schwenk W.F.; Marsh H.M.; Matthews D.; Gerich J.E.; Haymond M.W.
AN 90007704 EMBASE

L171 ANSWER 90 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI Analysis of alanine- and aspartate-aminotransferase activity of Jurkat cells;
(conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1989) 198 Meet., MBTD191
CODEN: ACSRAL
AU Gayton M; Glacken M W
AN 90-01050 BIOTECHDS

L171 ANSWER 91 OF 284 MEDLINE DUPLICATE 50
TI Model to examine pathways of carbon flux from lactate to ***glucose*** at the first branch point in gluconeogenesis.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1988 Nov 15) 263 (32) 16725-30.
Journal code: HIV. ISSN: 0021-9258.
AU Blackard W G; Clore J N
AN 89034161 MEDLINE

L171 ANSWER 92 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI ***Glucose*** permease of Escherichia coli. The effect of cysteine to serine mutations on the function, stability, and regulation of ***transport*** and phosphorylation
SO J. Biol. Chem. (1988), 263(14), 6647-55
CODEN: JBCHA3; ISSN: 0021-9258
AU Nuoffer, Claude; Zanolari, Bettina; Erni, Bernhard
AN 1988:433927 HCAPLUS
DN 109:33927

L171 ANSWER 93 OF 284 MEDLINE DUPLICATE 51
TI Regulation of carbon flow in Selenomonas ruminantium grown in ***glucose*** -limited continuous culture.
SO JOURNAL OF BACTERIOLOGY, (1988 Nov) 170 (11) 5305-11.
Journal code: HH3. ISSN: 0021-9193.
AU Melville S B; Michel T A; Macy J M
AN 89033919 MEDLINE

L171 ANSWER 94 OF 284 MEDLINE DUPLICATE 52
TI Starvation-induced stimulation of sugar uptake in Streptococcus mutans is due to an effect on the activities of preexisting proteins of the ***phosphotransferase*** system.
SO INFECTION AND IMMUNITY, (1988 Oct) 56 (10) 2594-600.
Journal code: GO7. ISSN: 0019-9567.
AU Lodge J; Jacobson G R
AN 88330181 MEDLINE

L171 ANSWER 95 OF 284 MEDLINE
TI Properties of a Tn5 insertion ***mutant*** defective in the structural gene (fruA) of the fructose-specific ***phosphotransferase*** system of Rhodobacter capsulatus and cloning of the fru regulon.
SO JOURNAL OF BACTERIOLOGY, (1988 Apr) 170 (4) 1698-703.

    Journal code: HH3. ISSN: 0021-9193.
AU Daniels G A; Drews G; Saier M H Jr
AN 88169493   MEDLINE

L171 ANSWER 96 OF 284 MEDLINE   DUPLICATE 53
TI Effect of nutritional constraints on the biosynthesis of the
    components of the ***phosphoenolpyruvate*** : sugar
    phosphotransferase system in a fresh isolate of
    Streptococcus ***mutans*** .
SO INFECTION AND IMMUNITY, (1988 Feb) 56 (2) 518-22.
    Journal code: GO7. ISSN: 0019-9567.
AU Rodrigue L; Lacoste L; Trahan L; Vadeboncoeur C
AN 88114054   MEDLINE

L171 ANSWER 97 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI Directed metabolic flow with high butanol yield and selectivity in
    continuous cultures of Clostridium acetobutylicum;
    effect of addition of methylviologen to ***alter***
    carbon ***flow*** toward butanol formation
SO Biotechnol.Lett.; (1988) 10, 5, 313-18
    CODEN: BILED3
AU Rao G; Mutharasan R
AN 88-08617 BIOTECHDS

L171 ANSWER 98 OF 284 LIFESCI COPYRIGHT 1996 CSA DUPLICATE 54
TI Phosphoenolpyruvate carboxylase mediated carbon flow in a
    cyanobacterium.
SO BIOCHEM. CELL BIOL., (1988) vol. 66, no. 2, pp. 93-99.
AU Owttrim, G.W.; Colman, B.
AN 88:65888 LIFESCI

L171 ANSWER 99 OF 284 MEDLINE   DUPLICATE 55
TI [ptsS: a new regulatory element of the fructose operon in
    Escherichia coli].
    ptsS--Novyi element reguliatsii fruktoznogo regulona u Escherichia
    coli K12.
SO MOLEKULIARNAIA GENETIKA, MIKROBIOLOGIA, I VIRUSOLOGA, (1988 Feb) (2)
    41-4.
    Journal code: NMJ. ISSN: 0208-0613.
AU Bol'shakova T N; Erlagaeva R S; Kyzylova N A; Germanovich V N
AN 88232755   MEDLINE

L171 ANSWER 100 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI A missing-bending-magnet scheme for PEP
SO Nucl. Instrum. Methods Phys. Res., Sect. A (1988), A266(1-3), 32-7
    CODEN: NIMAER; ISSN: 0168-9002
AU Liu, R. Z.; Winick, H.
AN 1988:194319 HCAPLUS
DN 108:194319

L171 ANSWER 101 OF 284 NTIS COPYRIGHT 1996 NTIS
TI Measurement of the leptonic structure functions of the photon at
    PEP. (Thesis (Ph.D).)
NR DE91008168/XAD; DOE/ER/13274-T4
    122 p.   NTIS Prices : PC A06/MF A01
    Availability : Portions of this document are illegible in microfiche
    products.
    Notes : Sponsored by Department of Energy, Washington, DC.

PD 1987
AU Cain, M. P.
AN 91(13):860 NTIS

L171 ANSWER 102 OF 284 NTIS COPYRIGHT 1996 NTIS
TI APS (Advanced Photon Source) Interests in PEP.
NR DE88005952/XAD
6 p. NTIS Prices : PC A02/MF A01
Availability : Portions of this document are illegible in microfiche products.
Notes : Development of PEP as a radiation source conference, Stanford, CA, USA, 20 Oct 1987.
PD Nov 1987
AU Moncton, D. E.; Shenoy, G. K.; Mills, D. M.; Viccaro, P. J.; Brown, G.
AN 88(14):1570 NTIS

L171 ANSWER 103 OF 284 LIFESCI COPYRIGHT 1996 CSA DUPLICATE 56
TI Altered electron flow in continuous cultures of Clostridium acetobutylicum induced by viologen dyes.
SO APPL. ENVIRON. MICROBIOL., (1987) vol. 53, no. 6, pp. 1232-1235.
AU Rao, G.; Mutharasan, R.
AN 87:43413 LIFESCI

L171 ANSWER 104 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 57
TI SELECTION FOR STREPTOCOCCUS-MUTANS WITH AN ALTERED XYLITOL ***TRANSPORT*** CAPACITY IN CHRONIC XYLITOL CONSUMERS.
SO J DENT RES 66 (5). 1987. 982-988. CODEN: JDREAF ISSN: 0022-0345
AU TRAHAN L; MOUTON C
AN 87:338441 BIOSIS

L171 ANSWER 105 OF 284 MEDLINE DUPLICATE 58
TI Indirect role of adenylate cyclase and cyclic AMP in chemotaxis to phosphotransferase system carbohydrates in Escherichia coli K-12.
SO JOURNAL OF BACTERIOLOGY, (1987 Feb) 169 (2) 593-9.
Journal code: HH3. ISSN: 0021-9193.
AU Vogler A P; Lengeler J W
AN 87109044 MEDLINE

L171 ANSWER 106 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI THE METABOLIC RESPONSE OF THE CANINE NEONATE TO TWENTY-FOUR HOURS OF FASTING.
SO METAB CLIN EXP 36 (6). 1987. 521-526. CODEN: METAAJ ISSN: 0026-0495
AU KLIEGMAN R M; MORTON S
AN 87:356917 BIOSIS

L171 ANSWER 107 OF 284 MEDLINE DUPLICATE 59
TI Rat brain hexokinase: location of the substrate hexose binding site in a structural domain at the C-terminus of the enzyme.
SO ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1987 May 1) 254 (2) 385-96.
Journal code: 6SK. ISSN: 0003-9861.
AU Schirch D M; Wilson J E
AN 87212021 MEDLINE

L171 ANSWER 108 OF 284 LIFESCI COPYRIGHT 1996 CSA
TI Phosphoenolpyruvate transport in the anion transport system of human erythrocyte membranes.

SO   TRENDS BIOCHEM. SCI., (1987) vol. 12, no. 5, pp. 183-185.
AU   Hamasaki, N.; Kawano, Y.
AN   87:35473 LIFESCI

L171 ANSWER 109 OF 284 LIFESCI   COPYRIGHT 1996 CSA   DUPLICATE 60
TI   Two functionally different ***glucose***
     phosphotransferase   ***transport*** systems in
     Streptococcus ***mutans***   and Streptocccocus sobrinus .
SO   ORAL MICROBIOL. IMMUNOL., (1987) vol. 2, no. 4, pp. 171-177.
AU   Neron, S.; Vadeboncoeur, C.
AN   87:69203 LIFESCI

L171 ANSWER 110 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI THERMALLY-DEPENDENT BIOCHEMICAL-GENETIC ***ALTERATIONS*** IN
    METABOLIC ***CARBON***   ***FLUX*** IN SEA ANEMONES.
SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS, AMERICAN
    MICROSCOPICAL SOCIETY, ANIMAL BEHAVIOR SOCIETY, THE CRUSTACEAN
    SOCIETY, INTERNATIONAL ASSOCIATION OF ASTACOLOGY, AND THE SOCIETY OF
    SYSTEMATIC ZOOLOGY, NEW ORLEANS, LOUISIANA, USA, DECEMBER 27-30,
    1987. AM ZOOL 27 (4). 1987. 134A. CODEN: AMZOAF ISSN: 0003-1569
AU ZAMER W E; HOFFMANN R J
AN 88:434334 BIOSIS

L171 ANSWER 111 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Analysis of mutations affecting the expression of
     catabolite-sensitive operons in Escherichia coli mutants defective
     in the HPr-component of the sugar ***transport*** system
SO   Mol. Genet., Mikrobiol. Virusol. (1987), (2), 43-7
     CODEN: MGMVDU
AU   Erlagaeva, R. S.; Bol'shakova, T. N.; Kyzylova, N. A.; Gershanovich,
     V. N.
AN   1987:132616 HCAPLUS
DN   106:132616

L171 ANSWER 112 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
     DUPLICATE 61
TI   Evidence for the presence of two distinct
     phosphoenolpyruvate :mannose ***phosphotransferase***
     systems in Streptococcus ***mutans*** GS5-2.
SO   FEMS MICROBIOL. LETT., (1987) 42/1 (7-11).
     CODEN: FMLED7
AU   Neron S.; Vadeboncoeur C.
AN   87165808 EMBASE

L171 ANSWER 113 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Stimulation pattern dependent contractions of myocardial
     preparations after lipid diets
SO   Biomed. Biochim. Acta (1986), 45(1-2), S179-S186
     CODEN: BBIADT
AU   Guenther, J.; Oppelt, F.; Storch, E.; Thamm, E.
AN   1986:167373 HCAPLUS
DN   104:167373

L171 ANSWER 114 OF 284 MEDLINE   DUPLICATE 62
TI   Inhibition of E. coli adenylate cyclase activity by inorganic
     orthophosphate is dependent on IIIglc of the
     phosphoenolpyruvate:glycose ***phosphotransferase*** system.
SO   BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1986 Dec 30)

141 (3) 1138-44.
Journal code: 9Y8. ISSN: 0006-291X.
AU Liberman E; Saffen D; Roseman S; Peterkofsky A
AN 87128031 MEDLINE

L171 ANSWER 115 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI ***Transport*** of trehalose in Salmonella typhimurium
SO J. Bacteriol. (1986), 168(3), 1107-11
CODEN: JOBAAY; ISSN: 0021-9193
AU Postma, Pieter W.; Keizer, Hiskias G.; Koolwijk, Pieter
AN 1987:29878 HCAPLUS
DN 106:29878

L171 ANSWER 116 OF 284 MEDLINE DUPLICATE 63
TI Pyruvate metabolism and the phosphorylation state of isocitrate dehydrogenase in Escherichia coli.
SO JOURNAL OF GENERAL MICROBIOLOGY, (1986 Mar) 132 (Pt 3) 797-806.
Journal code: I87. ISSN: 0022-1287.
AU el-Mansi E M; Nimmo H G; Holms W H
AN 86280354 MEDLINE

L171 ANSWER 117 OF 284 MEDLINE DUPLICATE 64
TI Effects of periodic positive airway pressure by mask on postoperative pulmonary function.
SO CHEST, (1986 Jun) 89 (6) 774-81.
Journal code: D1C. ISSN: 0012-3692.
AU Ricksten S E; Bengtsson A; Soderberg C; Thorden M; Kvist H
AN 86219437 MEDLINE

L171 ANSWER 118 OF 284 MEDLINE
TI Evidence against direct involvement of cyclic GMP or cyclic AMP in bacterial chemotactic signaling.
SO JOURNAL OF BACTERIOLOGY, (1986 Nov) 168 (2) 624-30.
Journal code: HH3. ISSN: 0021-9193.
AU Tribhuwan R C; Johnson M S; Taylor B L
AN 87056943 MEDLINE

L171 ANSWER 119 OF 284 MEDLINE
TI Stimulation pattern dependent contractions of myocardial preparations after lipid diets.
SO BIOMEDICA BIOCHIMICA ACTA, (1986) 45 (1-2) S179-86.
Journal code: 9YX. ISSN: 0232-766X.
AU Gunther J; Oppelt F; Storch E; Thamm E
AN 86186728 MEDLINE

L171 ANSWER 120 OF 284 MEDLINE DUPLICATE 65
TI Glycogen synthase and phosphorylase activities during glycogen repletion in endotoxemic rats.
SO CIRCULATORY SHOCK, (1986) 19 (2) 149-63.
Journal code: C9Y. ISSN: 0092-6213.
AU Buday A Z; Lang C H; Bagby G J; Spitzer J J
AN 86245531 MEDLINE

L171 ANSWER 121 OF 284 MEDLINE DUPLICATE 66
TI Formation of hexose 6-phosphates from lactate + pyruvate + glutamate by a cell-free system from rat liver.
SO BIOCHEMICAL JOURNAL, (1986 May 15) 236 (1) 61-70.
Journal code: 9YO. ISSN: 0264-6021.

AU Stoecklin F B; Morikofer-Zwez S; Walter P
AN 87075629 MEDLINE

L171 ANSWER 122 OF 284 MEDLINE DUPLICATE 67
TI ***Phosphoenolpyruvate*** -sugar ***phosphotransferase*** ***transport*** system of Streptococcus ***mutans*** : purification of HPr and enzyme I and determination of their intracellular concentrations by rocket immunoelectrophoresis.
SO INFECTION AND IMMUNITY, (1985 Dec) 50 (3) 817-25.
Journal code: GO7. ISSN: 0019-9567.
AU Thibault L; Vadeboncoeur C
AN 86058034 MEDLINE

L171 ANSWER 123 OF 284 MEDLINE DUPLICATE 68
TI The significance of sedoheptulose 1,7-bisphosphate in the metabolism and regulation of the pentose pathway in liver.
SO BIOCHEMISTRY INTERNATIONAL, (1985 Oct) 11 (4) 599-610.
Journal code: 9Y9. ISSN: 0158-5231.
AU Williams J F; Blackmore P F; Arora K K
AN 86103432 MEDLINE

L171 ANSWER 124 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Maltotriitol inhibition of maltose metabolism in Streptococcus mutans via maltose ***transport*** , amylomaltase and phospho-.alpha.-glucosidase activities
SO Caries Res. (1985), 19(5), 439-49
CODEN: CAREBK; ISSN: 0008-6568
AU Wursch, P.; Koellreutter, Brigitte
AN 1985:538247 HCAPLUS
DN 103:138247

L171 ANSWER 125 OF 284 MEDLINE DUPLICATE 69
TI Lactose metabolism in Streptococcus lactis: studies with a ***mutant*** lacking glucokinase and mannose- ***phosphotransferase*** activities.
SO JOURNAL OF BACTERIOLOGY, (1985 Apr) 162 (1) 217-23.
Journal code: HH3. ISSN: 0021-9193.
AU Thompson J; Chassy B M; Egan W
AN 85157411 MEDLINE

L171 ANSWER 126 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
TI Targeting proteins into subcellular organelles; targeting to mitochondria and chloroplasts
SO Trends Biotechnol.; (1985) 3, 6, 133
AU Bryant J A
AN 85-09354 BIOTECHDS

L171 ANSWER 127 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 70
TI ***TRANSPORT*** AND PHOSPHORYLATION OF XYLITOL BY A FRUCTOSE ***PHOSPHOTRANSFERASE*** SYSTEM IN STREPTOCOCCUS- ***MUTANS*** .
SO CARIES RES 19 (1). 1985. 53-63. CODEN: CAREBK ISSN: 0008-6568
AU TRAHAN L; BAREIL M; GAUTHIER L; VADEBONCOEUR C
AN 85:288801 BIOSIS

L171 ANSWER 128 OF 284 MEDLINE DUPLICATE 71
TI The role of phosphoenolpyruvate in insulin secretion: the effect of L-phenylalanine.
SO EXPERIENTIA, (1984 Dec 15) 40 (12) 1426-7.

Journal code: EQZ. ISSN: 0014-4754.
AU Chatterton T A; Reynolds C H; Lazarus N R; Pogson C I
AN 85076918 MEDLINE

L171 ANSWER 129 OF 284 MEDLINE DUPLICATE 72
TI ***Transport*** of ***glucose*** and mannose by a common ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** system in Streptococcus ***mutans*** GS5.
SO INFECTION AND IMMUNITY, (1984 Mar) 43 (3) 1106-9.
Journal code: GO7. ISSN: 0019-9567.
AU Liberman E S; Bleiweis A S
AN 84134419 MEDLINE

L171 ANSWER 130 OF 284 MEDLINE
TI Enzyme III stimulation of cyclic AMP synthesis in an Escherichia coli crp mutant.
SO JOURNAL OF BACTERIOLOGY, (1984 Mar) 157 (3) 940-1.
Journal code: HH3. ISSN: 0021-9193.
AU Daniel J
AN 84135605 MEDLINE

L171 ANSWER 131 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Evidence that ***glucose*** and sucrose uptake in oral streptococcal bacteria involves independent ***phosphotransferase*** and proton-motive force-mediated mechanisms
SO Arch. Oral Biol. (1984), 29(11), 871-8
CODEN: AOBIAR; ISSN: 0003-9969
AU Keevil, C. W.; Williamson, M. I.; Marsh, P. D.; Ellwood, D. C.
AN 1985:538286 HCAPLUS
DN 103:138286

L171 ANSWER 132 OF 284 MEDLINE DUPLICATE 73
TI Identification and properties of distinct sucrose and ***glucose*** ***phosphotransferase*** enzyme II activities in Streptococcus ***mutans*** 6715g.
SO INFECTION AND IMMUNITY, (1984 Dec) 46 (3) 854-6.
Journal code: GO7. ISSN: 0019-9567.
AU Jacobson G R; Mimura C S; Scott P J; Thompson P W
AN 85053513 MEDLINE

L171 ANSWER 133 OF 284 MEDLINE
TI Isolation of a novel protein involved in the ***transport*** of fructose by an inducible ***phosphoenolpyruvate*** fructose ***phosphotransferase*** system in Streptococcus ***mutans*** .
SO JOURNAL OF BACTERIOLOGY, (1984 Nov) 160 (2) 755-63.
Journal code: HH3. ISSN: 0021-9193.
AU Gauthier L; Mayrand D; Vadeboncoeur C
AN 85054589 MEDLINE

L171 ANSWER 134 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI The role of PEP-carboxylase in a cyanobacterium
SO Adv. Photosynth. Res., Proc. Int. Congr. Photosynth., 6th (1984), Meeting Date 1983, Volume 3, 549-52. Editor(s): Sybesma, C. Publisher: Nijhoff, The Hague, Neth.
CODEN: 51STAF
AU Owttrim, G. W.; Colman, B.
AN 1984:450220 HCAPLUS

DN 101:50220

L171 ANSWER 135 OF 284 MEDLINE DUPLICATE 74
TI Role of the ***phosphoenolpyruvate*** -dependent ***glucose*** ***phosphotransferase*** system of Streptococcus ***mutans*** GS5 in the regulation of lactose uptake.
SO INFECTION AND IMMUNITY, (1984 Feb) 43 (2) 536-42.
Journal code: GO7. ISSN: 0019-9567.
AU Liberman E S; Bleiweis A S
AN 84110514 MEDLINE

L171 ANSWER 136 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Structure and properties of the ***phosphoenolpyruvate*** : ***glucose*** ***phosphotransferase*** system of oral streptococci
SO Can. J. Microbiol. (1984), 30(4), 495-502
CODEN: CJMIAZ; ISSN: 0008-4166
AU Vadeboncoeur, Christian
AN 1984:403702 HCAPLUS
DN 101:3702

L171 ANSWER 137 OF 284 MEDLINE DUPLICATE 75
TI ***Glucose*** ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** system of Streptococcus ***mutans*** GS5 studied by using cell-free extracts.
SO INFECTION AND IMMUNITY, (1984 May) 44 (2) 486-92.
Journal code: GO7. ISSN: 0019-9567.
AU Liberman E S; Bleiweis A S
AN 84184719 MEDLINE

L171 ANSWER 138 OF 284 MEDLINE DUPLICATE 76
TI Whole-body distribution of 11C-(4)-L-aspartic acid in rats.
SO RADIOISOTOPES, (1984 Jun) 33 (6) 363-9.
Journal code: RBE. ISSN: 0033-8303.
AU Nakamura T; Akisada M; Shigematsu A
AN 85039429 MEDLINE

L171 ANSWER 139 OF 284 MEDLINE
TI Regulation of glycerol uptake by the ***phosphoenolpyruvate*** -sugar ***phosphotransferase*** system in Bacillus subtilis.
SO JOURNAL OF BACTERIOLOGY, (1984 Jul) 159 (1) 243-50.
Journal code: HH3. ISSN: 0021-9193.
AU Reizer J; Novotny M J; Stuiver I; Saier M H Jr
AN 84239562 MEDLINE

L171 ANSWER 140 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI ANAEROBIC METABOLISM IN THE LUGWORM ARENICOLA-MARINA THE TRANSITION FROM AEROBIC TO ANAEROBIC METABOLISM.
SO COMP BIOCHEM PHYSIOL B COMP BIOCHEM 79 (1). 1984. 93-104. CODEN: CBPBB8 ISSN: 0305-0491
AU SCHOETTLER U; WIENHAUSEN G; WESTERMANN J
AN 85:260901 BIOSIS

L171 ANSWER 141 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Hygenic evaluation of the polymer coating ***PEP*** -971 used in water ***supply*** systems.
SO Gig. Sanit. (1984), (7), 74
CODEN: GISAAA; ISSN: 0016-9900

AU   Yakovleva, L. E.; Pashkina, E. N.
AN   1984:624195 HCAPLUS
DN   101:224195

L171 ANSWER 142 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI METABOLITE MEDIATED INTER CONVERSION OF PYRO PHOSPHATE D FRUCTOSE 6 PHOSPHATE 1 ***PHOSPHO*** ***TRANSFERASE*** PHOSPHO FRUCTO KINASE A REGULATORY MECHANISM TO DIRECT CYTOSOLIC ***CARBON*** ***FLUX*** .
SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, DAVIS, CALIF., USA, AUG. 12-17, 1984. PLANT PHYSIOL 75 (SUPPL. 1). 1984. 53. CODEN: PLPHAY ISSN: 0032-0889
AU BALOGH A; BUCHANAN B B; WONG J H
AN 84:150955 BIOSIS

L171 ANSWER 143 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Photosynthesis and photorespiration in mangroves
SO   Tasks Veg. Sci. (1984), 9(Physiol. Manage. Mangroves), 1-14
     CODEN: TUSCD8; ISSN: 0167-9406
AU   Joshiv, Govind Vishnu; Sontakke, Shubhangi; Bhosale, Leela; Waghmode, A. P.
AN   1985:129075 HCAPLUS
DN   102:129075

L171 ANSWER 144 OF 284 LIFESCI   COPYRIGHT 1996 CSA
TI   Ammonia regulation of intermediary metabolism in photosynthesizing and respiring Chlorella pyrenoidosa : Comparative effects of methylamine.
SO   PLANT CELL PHYSIOL., (1983) vol. 24, no. 6, pp. 979-986.
AU   Kanazawa, T.; Distefano, M.; Bassham, J.A.
AN   83:47005 LIFESCI

L171 ANSWER 145 OF 284 MEDLINE   DUPLICATE 77
TI   Heterofermentative ***glucose*** metabolism by ***glucose*** ***transport*** -impaired mutants of oral streptococcal bacteria during growth in batch culture.
SO   ARCHIVES OF ORAL BIOLOGY, (1983) 28 (10) 931-7.
     Journal code: 83M. ISSN: 0003-9969.
AU   Vadeboncoeur C; Trahan L
AN   84079135   MEDLINE

L171 ANSWER 146 OF 284 MEDLINE   DUPLICATE 78
TI   Regulation of hexitol catabolism in Streptococcus mutans.
SO   JOURNAL OF BACTERIOLOGY, (1983 Feb) 153 (2) 861-6.
     Journal code: HH3. ISSN: 0021-9193.
AU   Dills S S; Seno S
AN   83108711   MEDLINE

L171 ANSWER 147 OF 284 MEDLINE   DUPLICATE 79
TI   Genetics of alkaline phosphatase of the small intestine of the house mouser (Mus musculus).
SO   BIOCHEMICAL GENETICS, (1983 Aug) 21 (7-8) 641-52.
     Journal code: 9YK. ISSN: 0006-2928.
AU   Wilcox F H
AN   84023656   MEDLINE

L171 ANSWER 148 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI INTRA CELLULAR POLY ***GLUCOSE*** ACCUMULATION DURING GROWTH OF

GLUCOSE ***TRANSPORT*** IMPAIRED MUTANTS OF ORAL STREPTOCOCCI.
SO MEETING OF THE CANADIAN ASSOCIATION FOR DENTAL RESEARCH AND THE ASSOCIATION OF CANADIAN FACULTIES OF DENTISTRY HELD AT THE 12TH BIENNIAL CONFERENCE ON CANADIAN DENTAL RESEARCH, HALIFAX, NOVA SCOTIA, CANADA, JUNE 19-21, 1982. J DENT RES 62 (4). 1983. 443. CODEN: JDREAF ISSN: 0022-0345
AU MOREAU F; TRAHAN L; VADEBONCOEUR C
AN 84:65870 BIOSIS

L171 ANSWER 149 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI ***Phosphotransferase*** -mediated regulation of carbohydrate utilization in Escherichia coli K12: the nature of the iex (crr) and gsr (tgs) mutations
SO J. Gen. Microbiol. (1983), 129(2), 337-48
CODEN: JGMIAN; ISSN: 0022-1287
AU Parra, F.; Jones-Mortimer, M. C.; Kornberg, H. L.
AN 1983:140336 HCAPLUS
DN 98:140336

L171 ANSWER 150 OF 284 MEDLINE DUPLICATE 80
TI Control of protein synthesis in a wheat germ cell-free system.
SO ACTA BIOCHIMICA POLONICA, (1983) 30 (3-4) 255-63.
Journal code: 0B4. ISSN: 0001-527X.
AU Szybiak U; Legocki A B
AN 84174910 MEDLINE

L171 ANSWER 151 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI INHIBITION BY THE ANTI MICROBIAL AGENT CHLORHEXIDINE OF ACID PRODUCTION AND SUGAR ***TRANSPORT*** IN ORAL STREPTOCOCCAL BACTERIA.
SO ARCH ORAL BIOL 28 (3). 1983. 233-240. CODEN: AOBIAR ISSN: 0003-9969
AU MARSH P D; KEEVIL C W; MCDERMID A S; WILLIAMSON M I; WILLIAMSON M I
AN 83:297679 BIOSIS

L171 ANSWER 152 OF 284 MEDLINE DUPLICATE 81
TI Failure of infused beta-hydroxybutyrate to decrease proteolysis in man.
SO DIABETES, (1983 Mar) 32 (3) 197-205.
Journal code: E8X. ISSN: 0012-1797.
AU Miles J M; Nissen S L; Rizza R A; Gerich J E; Haymond M W
AN 83132939 MEDLINE

L171 ANSWER 153 OF 284 MEDLINE DUPLICATE 82
TI Control of sugar utilization in the oral bacteria Streptococcus salivarius and Streptococcus sanguis by the ***phosphoenolpyruvate*** : ***glucose*** ***phosphotransferase*** system.
SO ARCHIVES OF ORAL BIOLOGY, (1983) 28 (2) 123-31.
Journal code: 83M. ISSN: 0003-9969.
AU Vadeboncoeur C; Bourgeau G; Mayrand D; Trahan L
AN 83255956 MEDLINE

L171 ANSWER 154 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Evidence for a third system for ***glucose*** uptake in Escherichia coli
SO FEMS Microbiol. Lett. (1983), 17(1-2-3), 27-9
CODEN: FMLED7; ISSN: 0378-1097

AU   Fraser, Ann D. E.; Yamazaki, Hiroshi
AN   1983:212647 HCAPLUS
DN   98:212647

L171 ANSWER 155 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   PEP storage ring magnets and power supply system
SO   Report (1982), DOE/SF/00515-T4; Order No. DE82014964, 97 pp.
     Avail.: NTIS
     From: Energy Res. Abstr. 1983, 8(9), Abstr. No. 21558
AN   1983:444853 HCAPLUS
DN   99:44853

L171 ANSWER 156 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   PEP Storage Ring Magnets and Power Supply System.
NR   DE82014964; DOE/SF/00515-T4
     97 p.   NTIS Prices : PC A05/MF A01
     Notes : Portions are illegible in microfiche products.
PD   1982
AN   83(16):1406   NTIS

L171 ANSWER 157 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   GO, An Exec for Running the Programs: CELL, COLLIDER, MAGIC,
     PATRICIA, PETROS, TRANSPORT, And TURTLE.
NR   DE89006358/XAD; SLAC-PEP-NOTE-369
     15 p.   NTIS Prices : PC A03/MF A01
     Availability : Portions of this document are illegible in microfiche
     products.
PD   May 1982
AU   Shoaee, H.
AN   89(12):1478   NTIS

L171 ANSWER 158 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   GO, an Exec for Running the Programs: CELL, COLLIDER, MAGIC,
     PATRICIA, PETROS, TRANSPORT And TURTLE.
NR   DE83014828; PEP-NOTE-369
     8 p.   NTIS Prices : PC A02/MF A01
PD   May 1982
AU   Shoaee, H.
AN   84(02):1165   NTIS

L171 ANSWER 159 OF 284 MEDLINE   DUPLICATE 83
TI   Sugar ***transport*** by the bacterial
     phosphotransferase system. Preparation and characterization
     of membrane vesicles from ***mutant*** and wild type Salmonella
     typhimurium.
SO   JOURNAL OF BIOLOGICAL CHEMISTRY, (1982 Dec 10) 257 (23) 14565-75.
     Journal code: HIV. ISSN: 0021-9258.
AU   Beneski D A; Misko T P; Roseman S
AN   83057004   MEDLINE

L171 ANSWER 160 OF 284 MEDLINE   DUPLICATE 84
TI   Compartmentation of mitochondrial creatine phosphokinase. II. The
     importance of the outer mitochondrial membrane for mitochondrial
     compartmentation.
SO   JOURNAL OF BIOLOGICAL CHEMISTRY, (1982 Dec 10) 257 (23) 14405-11.
     Journal code: HIV. ISSN: 0021-9258.
AU   Erickson-Viitanen S; Geiger P J; Viitanen P; Bessman S P
AN   83056985   MEDLINE

L171 ANSWER 161 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Characterization and genetic mapping of fructose ***phosphotransferase*** ***mutations*** in Pseudomonas aeruginosa
SO J. Bacteriol. (1982), 149(3), 897-905
CODEN: JOBAAY; ISSN: 0021-9193
AU Roehl, R. A.; Phibbs, P. V., Jr.
AN 1982:177774 HCAPLUS
DN 96:177774

L171 ANSWER 162 OF 284 MEDLINE
TI ***Glucose*** metabolism of Haemonchus contortus adults: effects of thiabendazole on susceptible versus resistant strain.
SO JOURNAL OF PARASITOLOGY, (1982 Oct) 68 (5) 845-50.
Journal code: JL3. ISSN: 0022-3395.
AU Rew R S; Smith C; Colglazier M L
AN 83032901 MEDLINE

L171 ANSWER 163 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI ***Glucose*** metabolism of Haemonchus contortus adults: effects of thiabendazole on susceptible versus resistant strain
SO J. Parasitol. (1982), 68(2), 845-50
CODEN: JOPAA2; ISSN: 0022-3395
AU Rew, R. S.; Smith, C.; Colglazier, M. L.
AN 1982:607859 HCAPLUS
DN 97:207859

L171 ANSWER 164 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI Fetal preejection period.
SO OBSTET. GYNECOL., (1982) 59/6 (747-754).
CODEN: OBGNAS
AU Hawrylyshyn P.A.; Bernstein A.; Organ L.W.
AN 82131349 EMBASE

L171 ANSWER 165 OF 284 MEDLINE DUPLICATE 85
TI Characterization of factor IIIGLc in catabolite repression-resistant (crr) mutants of Salmonella typhimurium.
SO JOURNAL OF BACTERIOLOGY, (1982 Feb) 149 (2) 576-86.
Journal code: HH3. ISSN: 0021-9193.
AU Scholte B J; Schuitema A R; Postma P W
AN 82119965 MEDLINE

L171 ANSWER 166 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Properties of Streptococcus mutans Ingbritt growing on limiting sucrose in a chemostat: repression of the ***phosphoenolpyruvate*** ***phosphotransferase*** ***transport*** system
SO Infect. Immun. (1982), 36(2), 576-81
CODEN: INFIBR; ISSN: 0019-9567
AU Ellwood, D. C.; Hamilton, I. R.
AN 1982:214055 HCAPLUS
DN 96:214055

L171 ANSWER 167 OF 284 MEDLINE DUPLICATE 86
TI Evidence for the involvement of proton motive force in the ***transport*** of ***glucose*** by a ***mutant*** of Streptococcus ***mutans*** strain DR0001 defective in

glucose - ***phosphoenolpyruvate***
phosphotransferase activity.
SO INFECTION AND IMMUNITY, (1982 May) 36 (2) 567-75.
Journal code: GO7. ISSN: 0019-9567.
AU Hamilton I R; St. Martin E J
AN 82212700 MEDLINE

L171 ANSWER 168 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI THE BINDING OF NUCLEOTIDES BY RAT BRAIN HEXO KINASE EC-2.7.1.1.
SO ARCH BIOCHEM BIOPHYS 218 (2). 1982. 513-524. CODEN: ABBIA4 ISSN: 0003-9861
AU BAIJAL M; WILSON J E
AN 83:316625 BIOSIS

L171 ANSWER 169 OF 284 MEDLINE DUPLICATE 87
TI Sucrose ***transport*** by Streptococcus mutans. Evidence for multiple ***transport*** systems.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1982 Nov 22) 692 (3) 415-24.
Journal code: A0W. ISSN: 0006-3002.
AU Slee A M; Tanzer J M
AN 83075438 MEDLINE

L171 ANSWER 170 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
DUPLICATE 88
TI Role of free oxaloacetate in ketogenesis. Effects of variation in activity of phosphoenolpyruvate carboxykinase on ketogenesis in 24 h-starved rats.
SO BIOCHEM. INT., (1982) 4/3 (255-261).
CODEN: BIINDF
AU Watts D.I.; Sugden M.C.
AN 82206263 EMBASE

L171 ANSWER 171 OF 284 MEDLINE DUPLICATE 89
TI ***Glucose*** ***transport*** in Streptococcus salivarius. Evidence for the presence of a distinct ***phosphoenolpyruvate*** : ***glucose*** ***phosphotransferase*** system which catalyses the phosphorylation of alpha-methyl glucoside.
SO CANADIAN JOURNAL OF MICROBIOLOGY, (1982 Feb) 28 (2) 190-9.
Journal code: CJ3. ISSN: 0008-4166.
AU Vadeboncoeur C; Trahan L
AN 82162211 MEDLINE

L171 ANSWER 172 OF 284 MEDLINE
TI Regulation of cephamycin C synthesis, aspartokinase, dihydrodipicolinic acid synthetase, and homoserine dehydrogenase by aspartic acid family amino acids in Streptomyces clavuligerus.
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1982 Jan) 21 (1) 74-84.
Journal code: 6HK. ISSN: 0066-4804.
AU Mendelovitz S; Aharonowitz Y
AN 82205013 MEDLINE

L171 ANSWER 173 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Characteristics of plague microbe mutants defective in general components of the ***phosphoenolpyruvate*** :carbohydrate system
SO Mol. Biol. Genet. Vozbuditelei Osobo Opasnykh Infekts. (1982), Volume 2, 65-9. Editor(s): Anisimov, P. I. Publisher: Izd. Saratov. Univ., Saratov, USSR.
CODEN: 51VLA6

AU   Stepanov, A. S.; Kostyleva, N. I.
AN   1984:435723 HCAPLUS
DN   101:35723

L171 ANSWER 174 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   Design and Performance of PEP DC-Power Systems.
NR   LBL-12476; CONF-810314-136
     6 p.   NTIS Prices : PC A02/MF A01
     Notes : Particle accelerator conference, Washington, DC, USA, 11 Mar 1981.
PD   Mar 1981
AU   Jackson, T.
AN   81(21):1058   NTIS

L171 ANSWER 175 OF 284 MEDLINE
TI   beta-Galactosidase alpha-complementation. Overlapping sequences.
SO   JOURNAL OF BIOLOGICAL CHEMISTRY, (1981 Jul 10) 256 (13) 6804-10.
     Journal code: HIV. ISSN: 0021-9258.
AU   Welply J K; Fowler A V; Zabin I
AN   81215662   MEDLINE

L171 ANSWER 176 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Compartmentation and export of carbon dioxide fixation products in mesophyll protoplasts from the C4 plant Digitaria sanguinalis
SO   Photosynth., Proc. Int. Congr., 5th (1981), Meeting Date 1980, Volume 4, 581-90. Editor(s): Akoyunoglou, George. Publisher: Balaban Int. Sci. Serv., Philadelphia, Pa.
     CODEN: 48ALA7
AU   Hallberg, Mats; Larsson, Christer
AN   1982:436260 HCAPLUS
DN   97:36260

L171 ANSWER 177 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI   EFFECT OF GROWTH RATE ON SUGAR ***TRANSPORT*** BY A ***MUTANT*** OF STREPTOCOCCUS- ***MUTANS*** DEFECTIVE IN ***GLUCOSE*** ***PHOSPHOENOL*** ***PYRUVATE*** DEPENDENT ***PHOSPHO*** ***TRANSFERASE*** SYSTEM ACTIVITY.
SO   59TH MEETING OF THE INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH AND THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR DENTAL RESEARCH, CHICAGO, ILL., USA, MARCH 19-22, 1981. J DENT RES 60 (SPEC. ISSUE A). 1981. 484. CODEN: JDREAF ISSN: 0022-0345
AU   HAMILTON I R; ST MARTIN E J
AN   81:127376 BIOSIS

L171 ANSWER 178 OF 284 MEDLINE   DUPLICATE 90
TI   Regulation of methyl beta-galactoside permease activity in pts and crr mutants of Salmonella typhimurium.
SO   MOLECULAR AND GENERAL GENETICS, (1981) 181 (4) 448-53.
     Journal code: NGP. ISSN: 0026-8925.
AU   Postma P W; Schuitema A; Kwa C
AN   81269992   MEDLINE

L171 ANSWER 179 OF 284 MEDLINE   DUPLICATE 91
TI   Defective enzyme II-BGlc of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system leading to uncoupling of ***transport*** and phosphorylation in Salmonella typhimurium.
SO   JOURNAL OF BACTERIOLOGY, (1981 Aug) 147 (2) 382-9.
     Journal code: HH3. ISSN: 0021-9193.

AU   Postma P W
AN   81264071   MEDLINE

L171 ANSWER 180 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI CHARACTERIZATION OF METABOLIC CARBON FLOW IN HEPATOCYTES ISOLATED
    FROM THERMALLY ACCLIMATED KILLIFISH FUNDULUS-HETEROCLITUS.
SO PHYSIOL ZOOL 54 (3). 1981. 379-389. CODEN: PHZOA9 ISSN: 0031-935X
AU MOERLAND T S; SIDELL B D
AN 82:168741 BIOSIS

L171 ANSWER 181 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI ISOLATION OF FACTOR III-GLC OF THE   ***PHOSPHOENOL***
    PYRUVATE   SUGAR   ***PHOSPHO***   ***TRANSFERASE***   SYSTEM
    AND PROPERTIES OF CRR-A   ***MUTANTS***   OF SALMONELLA-TYPHIMURIUM.
SO MEETING OF THE BIOCHEMICAL SOCIETY, MARCH 29-APRIL 3, 1981. BIOCHEM
    SOC TRANS 9 (2). 1981. 307P. CODEN: BCSTB5 ISSN: 0300-5127
AU SCHOLTE B J; POSTMA P W
AN 83:17050 BIOSIS

L171 ANSWER 182 OF 284 MEDLINE   DUPLICATE 92
TI   Effect of growth conditions on sucrose   ***phosphotransferase***
     activity of Streptococcus   ***mutans*** .
SO   INFECTION AND IMMUNITY, (1980 Mar) 27 (3) 922-7.
     Journal code: GO7. ISSN: 0019-9567.
AU   Slee A M; Tanzer J M
AN   80203554   MEDLINE

L171 ANSWER 183 OF 284 MEDLINE   DUPLICATE 93
TI   Enzymes II of the   ***phosphotransferase***   system do not
     catalyze sugar   ***transport***   in the absence of
     phosphorylation.
SO   JOURNAL OF BACTERIOLOGY, (1980 Feb) 141 (2) 476-84.
     Journal code: HH3. ISSN: 0021-9193.
AU   Postma P W; Stock J B
AN   80159763   MEDLINE

L171 ANSWER 184 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI EFFECT OF POTASSIUM DEFICIENCY ON 3 CARBON PATHWAY AND 4 CARBON
    PATHWAY CEREALS.
SO J EXP BOT 31 (121). 1980. 371-378. CODEN: JEBOA6 ISSN: 0022-0957
AU STAMP P; GEISLER G
AN 80:267782 BIOSIS

L171 ANSWER 185 OF 284 MEDLINE
TI   Fructose utilization and altered cytochrome P-450 in cultured
     hepatocytes from adult rats.
SO   BIOCHIMICA ET BIOPHYSICA ACTA, (1980 Dec 1) 633 (2) 201-10.
     Journal code: A0W. ISSN: 0006-3002.
AU   Vessal M; Choun M O; Bissell M J; Bissell D M
AN   81110616   MEDLINE

L171 ANSWER 186 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   The bacterial phosphoenolpyruvate dependent
     phosphotransferase   system (PTS). Solubilization and kinetic
     parameters of the   ***glucose***   -specific membrane bound enzyme
     II component of Streptococcus faecalis
SO   FEBS Lett. (1980), 114(1), 103-6
     CODEN: FEBLAL; ISSN: 0014-5793

AU   Huedig, Hendrik; Hengstenberg, Wolfgang
AN   1980:490780 HCAPLUS
DN   93:90780

L171 ANSWER 187 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   ***PEP*** -M ***AVAILABILITY***
SO   HOSPITAL PRACTICE, (1980) Vol. 15, No. 2, pp. 24.
AU   BENSON M K (Reprint)
AN   80:74498 SCISEARCH

L171 ANSWER 188 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   ***PEP*** -M ***AVAILABILITY*** - REPLY
SO   HOSPITAL PRACTICE, (1980) Vol. 15, No. 2, pp. 24.
AU   BEACHEY (Reprint)
AN   80:74499 SCISEARCH

L171 ANSWER 189 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   The effect of the potassium-magnesium status in maize leaf tissue on
     the concentration of selected organic acids and amino acids
SO   New Dev. Forages, Proc. Forage Grassl. Conf. (1980), 1-12 Publisher:
     Am. Forage Grassl. Counc., Lexington, Ky.
     CODEN: 44KVAP
AU   Brauer, David K.; Schultz, Frankie; Golt, Caroline; Teel, M. R.
AN   1981:14376 HCAPLUS
DN   94:14376

L171 ANSWER 190 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   Proteolysis of a Multienzyme Conjugate: A Possible Mechanism for
     Breaking a Metabolic Channel.
NR   CONF-790456-1
     22 p.   NTIS Prices : PC A02/MF A01
     Notes : Symposium on cell compartmentation and metabolic channeling,
     Thuringia, F.R. Germany, 7 Apr 1979.
PD   Apr 1979
AU   Vitto, A.; Gaertner, F. H.
AN   79(24):1730 NTIS

L171 ANSWER 191 OF 284 NTIS COPYRIGHT 1996 NTIS
TI   Hardware Implementation and Test Results of PEP Chopper Magnet Power
     Supply System.
NR   LBL-8414; CONF-790327-144
     6 p.   NTIS Prices : PC A02/MF A01
     Notes : IEEE particle accelerator conference, San Francisco, CA,
     USA, 12 Mar 1979.
PD   Mar 1979
AU   Jackson, L. T.; Flood, W. S.
AN   79(24):2395 NTIS

L171 ANSWER 192 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   HARDWARE IMPLEMENTATION AND TEST-RESULTS OF ***PEP*** CHOPPER
     MAGNET POWER- ***SUPPLY*** SYSTEM
SO   IEEE TRANSACTIONS ON NUCLEAR SCIENCE, (1979) Vol. 26, No. 3, pp.
     4072-4074.
AU   JACKSON L T (Reprint); FLOOD W S
AN   79:304776 SCISEARCH

L171 ANSWER 193 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   ***Phosphoenolpyruvate*** -dependent sucrose

phosphotransferase activity in Streptococcus ***mutans*** NCTC 10449
SO Infect. Immun. (1979), 24(3), 821-8
CODEN: INFIBR; ISSN: 0019-9567
AU Slee, Andrew M.; Tanzer, Jason M.
AN 1979:470631 HCAPLUS
DN 91:70631

L171 ANSWER 194 OF 284 MEDLINE
TI An essential arginyl residue in yeast hexokinase.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1979 Feb 9) 566 (2) 296-304.
Journal code: A0W. ISSN: 0006-3002.
AU Philips M; Pho D B; Pradel L A
AN 79124821 MEDLINE

L171 ANSWER 195 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI The .alpha.-methylglucoside effect on adenylate cyclase activity and membrane energization in Escherichia coli K12
SO FEBS Lett. (1979), 103(2), 238-40
CODEN: FEBLAL; ISSN: 0014-5793
AU Shul'gina, M. V.; Kalachev, I. Ya.; Burd, G. I.
AN 1979:587209 HCAPLUS
DN 91:187209

L171 ANSWER 196 OF 284 MEDLINE DUPLICATE 94
TI Effect of growth rate and ***glucose*** concentration on the activity of the ***phosphoenolpyruvate*** ***phosphotransferase*** system in Streptococcus ***mutans*** Ingbritt grown in continuous culture.
SO INFECTION AND IMMUNITY, (1979 Feb) 23 (2) 224-31.
Journal code: GO7. ISSN: 0019-9567.
AU Ellwood D C; Phipps P J; Hamilton I R
AN 79129503 MEDLINE

L171 ANSWER 197 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI HARDWARE IMPLEMENTATION AND TEST-RESULTS OF ***PEP*** CHOPPER MAGNET POWER- ***SUPPLY*** SYSTEM
SO BULLETIN OF THE AMERICAN PHYSICAL SOCIETY, (1979) Vol. 24, No. 2, pp. 179.
AU JACKSON L T (Reprint); FLOOD W
AN 79:114851 SCISEARCH

L171 ANSWER 198 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Isolation and investigation of the Escherichia coli mutant with the deletion in the ptsH gene
SO FEBS Lett. (1979), 107(1), 169-72
CODEN: FEBLAL; ISSN: 0014-5793
AU Bol'shakova, T. N.; Dobrynina, O. Y.; Gershavovich, V. N.
AN 1980:37550 HCAPLUS
DN 92:37550

L171 ANSWER 199 OF 284 MEDLINE DUPLICATE 95
TI Unmasking of an essential thiol during function of the membrane-bound enzyme II of the phosphenolpyruvate beta-glucoside phosphotransferase system of Escherichia coli.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1979 Feb 20) 551 (1) 157-68.
Journal code: A0W. ISSN: 0006-3002.
AU Haguenauer-Tsapis R; Kepes A

AN   79145477   MEDLINE

L171 ANSWER 200 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Ligand-induced conformational changes of rat brain hexokinase: their role in determining the substrate specificity for hexoses and inhibitory effectiveness of hexose 6-phosphates
SO   Arch. Biochem. Biophys. (1979), 196(1), 79-87
     CODEN: ABBIA4; ISSN: 0003-9861
AU   Wilson, John E.
AN   1979:504373 HCAPLUS
DN   91:104373

L171 ANSWER 201 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Aminoacid compartmentation in rat brain. Effects of amphetamine, levophacetoperane and phenobarbitone.
SO   J. PHARMACOL., (1979) 10/1 (51-68).
     CODEN: JNPHAG
AU   Vial H.; Ramirez A.; Mayau D.; Pacheco H.
AN   79180981 EMBASE

L171 ANSWER 202 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Deposition rate of polymeric powdered materials
SO   Lakokras. Mater. Ikh Primen. (1979), (1), 22-4
     CODEN: LAMAAD; ISSN: 0023-737X
AU   Gladkov, D. M.; Pashin, M. M.
AN   1979:123169 HCAPLUS
DN   90:123169

L171 ANSWER 203 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 96
TI DEFICIENCY OF D   ***GLUCOSE***   ***TRANSPORT***   IN TRANSKETOLASE MUTANT OF BACILLUS-SUBTILIS.
SO INST FERMENT RES COMMUN (OSAKA) 0 (9). 1979. 17-26. CODEN: IFMRBX
AU SASAJIMA K-I; KUMADA T
AN 80:171485 BIOSIS

L171 ANSWER 204 OF 284 MEDLINE   DUPLICATE 97
TI   Increased antimetabolite sensitivity with variation of carbon source during growth.
SO   JOURNAL OF BACTERIOLOGY, (1978 Mar) 133 (3) 1232-6.
     Journal code: HH3. ISSN: 0021-9193.
AU   Jensen R A; Calhoun D H
AN   78150792   MEDLINE

L171 ANSWER 205 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Co-induction of .beta.-galactosidase and the lactose-P-enolpyruvate ***phosphotransferase*** system in Streptococcus salivarius and Streptococcus ***mutans***
SO   J. Bacteriol. (1978), 136(3), 900-8
     CODEN: JOBAAY; ISSN: 0021-9193
AU   Hamilton, I. R.; Lo, G. C. Y.
AN   1979:83400 HCAPLUS
DN   90:83400

L171 ANSWER 206 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 98
TI CHEMO TAXIS OF SALMONELLA-TYPHIMURIUM TO AMINO-ACIDS AND SOME SUGARS.
SO J BACTERIOL 133 (2). 1978 708-716. CODEN: JOBAAY ISSN: 0021-9193
AU MELTON T; HARTMAN P E; STRATIS J P; LEE T L; DAVIS A T
AN 78:185873 BIOSIS

L171 ANSWER 207 OF 284 MEDLINE
TI Insulin action on Escherichia coli. Regulation of the adenylate cyclase and ***phosphotransferase*** enzymes.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1978 Sep 6) 542 (3) 442-55. Journal code: A0W. ISSN: 0006-3002.
AU Abou-Sabe' M; Reilly T
AN 79000556 MEDLINE

L171 ANSWER 208 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Roles of crr-gene products in regulating carbohydrate uptake by Escherichia coli
SO FEBS Lett. (1978), 89(2), 329-32 CODEN: FEBLAL; ISSN: 0014-5793
AU Kornberg, H. L.; Watts, P. D.
AN 1978:487037 HCAPLUS
DN 89:87037

L171 ANSWER 209 OF 284 MEDLINE DUPLICATE 99
TI Two kinds of mutants defective in multiple carbohydrate utilization isolated from in vitro fosfomycin-resistant strains of Escherichia coli K--12.
SO JOURNAL OF ANTIBIOTICS, (1978 Mar) 31 (3) 192-201. Journal code: HCF. ISSN: 0021-8820.
AU Tsuruoka T; Miyata A; Yamada Y
AN 78171280 MEDLINE

L171 ANSWER 210 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI CHLOROPHYLL CONTENT AND PHOSPHOENOL PYRUVATE CARBOXYLASE EC-4.1.1.31 ACTIVITY OF LEAVES OF YOUNG MAIZE PLANTS SUPPLIED WITH DIFFERENT AMOUNTS OF POTASSIUM.
SO Z ACKER- PFLANZENB 147 (3). 1978 (RECD. 1979). 181-189. CODEN: ZAPFAR ISSN: 0044-2151
AU GEISLER G; STAMP P
AN 79:234742 BIOSIS

L171 ANSWER 211 OF 284 NTIS COPYRIGHT 1996 NTIS
TI Study of Spear as a Dedicated Source of Synchrotron Radiation.
NR SLAC-PUB-2049; CONF-770313-136
6 p. NTIS Prices : PC A02/MF A01
Notes : Particle accelerator conference, Chicago, IL, USA, 16 Mar 1977.
PD Nov 1977
AU Cerino, J.; Golde, A.; Hastings, J.; Lindau, I.; Salsburg, B.
AN 78(16):6690 NTIS

L171 ANSWER 212 OF 284 NTIS COPYRIGHT 1996 NTIS
TI Pep Magnet Power Supply Systems.
NR LBL-5555; CONF-770313-75
4 p. NTIS Prices : PC A02/MF A01
Notes : Particle accelerator conference, Chicago, Illinois, United States of America (USA), 16 Mar 1977.
PD 16 Mar 1977
AU Jackson, L. T.
AN 77(24):6829 NTIS

L171 ANSWER 213 OF 284 NTIS COPYRIGHT 1996 NTIS
TI PEP Magnet Power Supply Systems.

NR   DE89006302/XAD; SLAC-PEP-NOTE-235
     3 p.   NTIS Prices : PC A02/MF A01
     Availability : Portions of this document are illegible in microfiche
     products.
PD   Mar 1977
AU   Jackson, L. T.
AN   89(12):1442   NTIS

L171 ANSWER 214 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 100
TI SUGAR PHOSPHATE SUGAR TRANS PHOSPHORYLATION COUPLED TO EXCHANGE GROUP
    TRANSLOCATION CATALYZED BY THE ENZYME II COMPLEXES OF THE PHOSPHOENOL
    PYRUVATE SUGAR   ***PHOSPHO***   ***TRANSFERASE***   SYSTEM IN
    MEMBRANE VESICLES OF ESCHERICHIA-COLI.
SO J BIOL CHEM 252 (24). 1977 (RECD 1978) 8908-8916. CODEN: JBCHA3
    ISSN: 0021-9258
AU SAIER M H JR; COX D F; MOCZYDLOWSKI E G
AN 78:161249 BIOSIS

L171 ANSWER 215 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 101
TI SUGAR PHOSPHATE SUGAR TRANS PHOSPHORYLATION AND EXCHANGE GROUP
    TRANSLOCATION CATALYZED BY THE ENZYME II COMPLEXES OF THE BACTERIAL
    PHOSPHOENOL PYRUVATE SUGAR   ***PHOSPHO***   ***TRANSFERASE***
    SYSTEM.
SO J BIOL CHEM 252 (24). 1977 (RECD 1978) 8899-8907. CODEN: JBCHA3
    ISSN: 0021-9258
AU SAIER M H JR; FEUCHT B U; MORA W K
AN 78:161250 BIOSIS

L171 ANSWER 216 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   ***PEP***   MAGNET POWER-   ***SUPPLY***   SYSTEMS
SO   IEEE TRANSACTIONS ON NUCLEAR SCIENCE, (1977) Vol. 24, No. 3, pp.
     1245-1247.
AU   JACKSON L T (Reprint)
AN   77:276237 SCISEARCH

L171 ANSWER 217 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 102
TI CONTROL OF GLYCOLYSIS IN RIPENING BERRIES OF VITIS-VINIFERA.
SO PHYTOCHEMISTRY (OXF) 16 (8). 1977 1171-1176. CODEN: PYTCAS ISSN:
    0031-9422
AU RUFFNER H P; HAWKER J S
AN 77:230806 BIOSIS

L171 ANSWER 218 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   A study of SPEAR as a dedicated source of synchrotron radiation
SO   IEEE Trans. Nucl. Sci. (1977), NS24(3), 1003-5
     CODEN: IETNAE
AU   Cerino, J.; Golde, A.; Hastings, J.; Lindau, I.; Salsburg, B.;
     Winick, H.; Lee, M.; Morton, P.; Garren, A.
AN   1977:507860 HCAPLUS
DN   87:107860

L171 ANSWER 219 OF 284 MEDLINE   DUPLICATE 103
TI   [***Glucose***   ***transport***   system and regulation of gene
     expression in Escherichia coli].
     Sistema transporta gliukozy i reguliatsiia gennoi aktivnosti u
     Escherichia coli.
SO   MIKROBIOLOGIIA, (1977 Sep-Oct) 46 (5) 912-9.
     Journal code: MZI. ISSN: 0026-3656.

AU   Gershanovich V N; Burd G I; Bol'shakov T N; Erlagayeva R S; Umiarov
     A M; Gadrielian T R
AN   78091731   MEDLINE

L171 ANSWER 220 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI THE 4 CARBON PATHWAY OF CARBON FIXATION IN SPINACIA-OLERACEA PART 1
    CARBON-14 LABELING PATTERNS OF SUSPENDED LEAF SLICES AS INFLUENCED BY
    THE EXTERNAL MEDIUM.
SO Z PFLANZENPHYSIOL 83 (4). 1977 347-362. CODEN: ZSPPAD ISSN:
    0044-328X
AU BOECHER M; KLUGE M
AN 78:117705 BIOSIS

L171 ANSWER 221 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Effects of cigarette smoke components on in vitro chemotaxis of
     human polymorphonuclear leukocytes.
SO   INFECTION IMMUNITY, (1977) 16/1 (240-248).
     CODEN: INFIBR
AU   Bridges R.B.; Kraal J.H.; Huang L.J.T.; Chancellor M.B.
AN   78087287 EMBASE

L171 ANSWER 222 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS
TI REPRESSION OF INDUCIBLE ENZYME SYNTHESIS IN A MUTANT OF
    ESCHERICHIA-COLI K-12 DELETED FOR THE PTSH GENE.
SO MOL GEN GENET 153 (2). 1977 185-190. CODEN: MGGEAE ISSN: 0026-8925
AU GERSHANOVITCH V N; ILYINA T S; RUSINA O Y; YOUROVITSKAYA N V;
    BOLSHAKOVA T N
AN 77:234318 BIOSIS

L171 ANSWER 223 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)
TI   ***PEP***   MAGNET POWER- ***SUPPLY***   SYSTEMS
SO   BULLETIN OF THE AMERICAN PHYSICAL SOCIETY, (1977) Vol. 22, No. 2,
     pp. 144.
AU   JACKSON L T (Reprint)
AN   77:121823 SCISEARCH

L171 ANSWER 224 OF 284 MEDLINE   DUPLICATE 104
TI   ***Glucose***   effect in tgl mutant of Escherichia col K12
     defective in methyl-alpha-D-glucoside   ***transport*** .
SO   EUROPEAN JOURNAL OF BIOCHEMISTRY, (1977 Jan 3) 72 (1) 127-35.
     Journal code: EMZ. ISSN: 0014-2956.
AU   Erlagaeva R S; Bolshakova T N; Shulgina M V; Bourd G I;
     Gershanovitch V N
AN   77091118   MEDLINE

L171 ANSWER 225 OF 284 MEDLINE   DUPLICATE 105
TI   Unmasking of an essential thiol during function of the membrane
     bound enzyme II of the phosphoenolpyruvate   ***glucose***
     phosphotransferase   system of Escherichia coli.
SO   BIOCHIMICA ET BIOPHYSICA ACTA, (1977 Feb 14) 465 (1) 118-30.
     Journal code: A0W. ISSN: 0006-3002.
AU   Haguenauer-Tsapis R; Kepes A
AN   77112486   MEDLINE

L171 ANSWER 226 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Microcalorimetric experiments on cell free-protein biosynthesis
SO   Appl. Calorim. Life Sci., Proc. Int. Conf. (1977), Meeting Date
     1976, 85-95. Editor(s): Lamprecht, Ingolf; Schaarschmidt, Bernd.

Publisher: de Gruyter, Berlin, Ger.
CODEN: 38CHAS
AU Berthe-Corti, L.
AN 1978:418481 HCAPLUS
DN 89:18481

L171 ANSWER 227 OF 284 MEDLINE DUPLICATE 106
TI Quantitative aspects of relationship between ***glucose*** 6-phosphate ***transport*** and hydrolysis for liver microsomal ***glucose*** -6-phosphatase system. Selective thermal inactivation of catalytic component in situ at acid pH.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1976 Nov 10) 251 (21) 6784-90. Journal code: HIV. ISSN: 0021-9258.
AU Arion W J; Lange A J; Ballas L M
AN 77028945 MEDLINE

L171 ANSWER 228 OF 284 MEDLINE DUPLICATE 107
TI Sugar ***transport*** . Properties of ***mutant*** bacteria defective in proteins of the ***phosphoenolpyruvate*** : sugar ***phosphotransferase*** system.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1976 Nov 10) 251 (21) 6584-97. Journal code: HIV. ISSN: 0021-9258.
AU Simoni R D; Roseman S; Saier M H Jr
AN 77028919 MEDLINE

L171 ANSWER 229 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Sugar ***transport*** . VII. Properties of ***mutant*** bacteria defective in proteins of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system
SO J. Biol. Chem. (1976), 251(21), 6584-97
CODEN: JBCHA3
AU Saier, Milton H., Jr.; Simoni, Robert D.; Roseman, Saul
AN 1977:2272 HCAPLUS
DN 86:2272

L171 ANSWER 230 OF 284 MEDLINE DUPLICATE 108
TI Regulation of carbohydrate uptake and adenylate cyclase activity mediated by the enzymes II of the ***phosphoenolpyruvate*** : sugar ***phosphotransferase*** system in Escherichia coli.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1976 Feb 10) 251 (3) 883-92. Journal code: HIV. ISSN: 0021-9258.
AU Saier M H Jr; Feucht B U; Hofstadter L J
AN 76120552 MEDLINE

L171 ANSWER 231 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 109
TI LACK OF ***GLUCOSE*** ***PHOSPHO*** ***TRANSFERASE*** FUNCTION IN PHOSPHO FRUCTO KINASE ***MUTANTS*** OF ESCHERICHIA-COLI.
SO J BACTERIOL 126 (2). 1976 852-860. CODEN: JOBAAY ISSN: 0021-9193
AU ROEHL R A; VINOPAL R T
AN 76:203676 BIOSIS

L171 ANSWER 232 OF 284 MEDLINE DUPLICATE 110
TI 3-Deoxy-3-fluoro-D- ***glucose*** -resistant Salmonella typhimurium ***mutants*** defective in the ***phosphoenolpyruvate*** :glycose ***phosphotransferase*** system.
SO JOURNAL OF BACTERIOLOGY, (1976 Dec) 128 (3) 794-800.

Journal code: HH3. ISSN: 0021-9193.
AU Melton T; Kundig W; Hartman P E; Meadow N
AN 77051262 MEDLINE

L171 ANSWER 233 OF 284 MEDLINE DUPLICATE 111
TI Fosfomycin resistance: selection method for internal and extended ***deletions*** of the phosphoenolpyruvate:sugar ***phosphotransferase*** genes of Salmonella typhimurium.
SO JOURNAL OF BACTERIOLOGY, (1976 Dec) 128 (3) 785-93.
Journal code: HH3. ISSN: 0021-9193.
AU Cordaro J C; Melton T; Stratis J P; Atagun M; Gladding C; Hartman P E; Roseman S
AN 77051261 MEDLINE

L171 ANSWER 234 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Defective use of various carbon sources in a ***mutant*** of Vibrio parahaemolyticus lacking a component of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system
SO Nippon Saikingaku Zasshi (1976), 31(6), 705-12
CODEN: NSKZAM
AU Fujisawa, Asako; Kubota, Yoneo; Tanaka, Shuji
AN 1977:117414 HCAPLUS
DN 86:117414

L171 ANSWER 235 OF 284 MEDLINE DUPLICATE 112
TI ***Inactivation*** of the phosphoenolpyruvate-dependent ***phosphotransferase*** system in various species of bacteria by vinylglycolic acid.
SO JOURNAL OF BACTERIOLOGY, (1976 Jul) 127 (1) 671-3.
Journal code: HH3. ISSN: 0021-9193.
AU Snyder M A; Kaczorowski G J; Barnes E M Jr; Walsh C
AN 76213036 MEDLINE

L171 ANSWER 236 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI Heterogeneous patterns of pleiotropy in PTS mutants of Vibrio parahaemolyticus
SO Nippon Saikingaku Zasshi (1976), 31(5), 629-36
CODEN: NSKZAM
AU Fujisawa, Asako; Kubota, Yoneo; Tanaka, Shuji
AN 1977:40042 HCAPLUS
DN 86:40042

L171 ANSWER 237 OF 284 MEDLINE DUPLICATE 113
TI A note on the dual role of ***glucose*** in the protection of glucokinase against inactivation.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1976 Dec 8) 452 (2) 392-7.
Journal code: A0W. ISSN: 0006-3002.
AU Grossman S H
AN 77087821 MEDLINE

L171 ANSWER 238 OF 284 MEDLINE DUPLICATE 114
TI [Catabolyte repression of Escherichia coli K12 mutants with defects in different systems of ***glucose*** ***transport***].
Katabolitnaia repressiia u mutantov Escherichia coli K12 s defektami v razlichnykh sistemakh transporta gliukozy.
SO MOLEKULIARNAIA BIOLOGIIA, (1976 Jan-Feb) 10 (1) 216-23.
Journal code: NGX. ISSN: 0026-8984.

AU   Gershanovich V N; Iurovitskaia N V; Komissarova L V; Bol'shakova T
     N; Erlagaeva R S
AN   76267248   MEDLINE

L171 ANSWER 239 OF 284 MEDLINE   DUPLICATE 115
TI   Enzymic activities of cadmium- and zinc-tolerant strains of
     Klebsiella (Aerobacter) aerogenes growing in   ***glucose***
     -limited chemostats.
SO   MICROBIOS, (1976) 15 (60) 105-11.
     Journal code: MXS. ISSN: 0026-2633.
AU   Pickett A W; Carter I S; Dean A C
AN   77055660   MEDLINE

L171 ANSWER 240 OF 284 MEDLINE   DUPLICATE 116
TI   Active   ***transport***   in Escherichia coli B membrane vesicles.
     Differential inactivating effects from the enzymatic oxidation of
     beta-chloro-L-alanine and beta-chloro-D-alanine.
SO   JOURNAL OF BIOLOGICAL CHEMISTRY, (1975 Dec 10) 250 (23) 8921-30.
     Journal code: HIV. ISSN: 0021-9258.
AU   Kaczorowski G; Shaw L; Laura R; Walsh C
AN   76069216   MEDLINE

L171 ANSWER 241 OF 284 MEDLINE   DUPLICATE 117
TI   Reversible inactivation of vectorial phosphorylation by
     hydroxybutynoate in Escherichia coli membrane vesicles.
SO   BIOCHEMISTRY, (1975 Aug 26) 14 (17) 3903-8.
     Journal code: A0G. ISSN: 0006-2960.
AU   Kaczorowski G; Kaback H R; Walsh C
AN   76018994   MEDLINE

L171 ANSWER 242 OF 284 MEDLINE   DUPLICATE 118
TI   Mannitol   ***transport***   in Streptococcus mutans.
SO   JOURNAL OF BACTERIOLOGY, (1975 Dec) 124 (3) 1475-81.
     Journal code: HH3. ISSN: 0021-9193.
AU   Maryanski J H; Wittenberger C L
AN   76069113   MEDLINE

L171 ANSWER 243 OF 284 MEDLINE   DUPLICATE 119
TI   Vinylglycolate resistance in Escherichia coli.
SO   JOURNAL OF BACTERIOLOGY, (1975 Mar) 121 (3) 1047-55.
     Journal code: HH3. ISSN: 0021-9193.
AU   Shaw L; Grau F; Kaback H R; Hong J S; Walsh C
AN   75114686   MEDLINE

L171 ANSWER 244 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   R factor-mediated resistance to aminoglycoside antibiotics in
     Pseudomonas aeruginosa
SO   Jpn. J. Microbiol. (1975), 19(6), 427-32
     CODEN: JJMBAN
AU   Sagai, Hitoshi; Krcmery, V.; Hasuda, Katsumi; Iyobe, Shizuko;
     Knothe, H.; Mitsuhashi, Susumu
AN   1976:160080 HCAPLUS
DN   84:160080

L171 ANSWER 245 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Glycolysis in CAM [crassulacean acid metabolism] plants
SO   Aust. J. Plant Physiol. (1975), 2(3), 389-402
     CODEN: AJPPCH

AU   Sutton, B. G.
AN   1975:528799 HCAPLUS
DN   83:128799

L171 ANSWER 246 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Path of carbon in CAM [crassulacean acid metabolism] plants at night
SO   Aust. J. Plant Physiol. (1975), 2(3), 377-87
     CODEN: AJPPCH
AU   Sutton, B. G.
AN   1975:528798 HCAPLUS
DN   83:128798

L171 ANSWER 247 OF 284 MEDLINE   DUPLICATE 120
TI   ***Glucose***   ***transport***   in Streptococcus
     mutans : preparation of cytoplasmic membranes and
     characteristics of   ***phosphotransferase***   activity.
SO   JOURNAL OF DENTAL RESEARCH, (1975 Mar-Apr) 54 (2) 330-8.
     Journal code: HYV. ISSN: 0022-0345.
AU   Schachtele C F
AN   75115251   MEDLINE

L171 ANSWER 248 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Effects of phenolic inhibitors on growth and metabolism of
     glucose -U-14C in Paul's Scarlet rose cell-suspension
     cultures
SO   Am. J. Bot. (1975), 62(3), 311-17
     CODEN: AJBOAA
AU   Danks, Maureen L.; Fletcher, John S.; Rice, Elroy L.
AN   1975:438701 HCAPLUS
DN   83:38701

L171 ANSWER 249 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Genetic analysis of succinate utilization in enzyme I
     mutants   of the   ***phosphoenolpyruvate*** : sugar
     phosphotransferase   system in Escherichia coli.
SO   J.BACT., (1975) 124/1 (252-261).
     CODEN: JOBAAY
AU   Alexander J.K.; Tyler B.
AN   77018800 EMBASE

L171 ANSWER 250 OF 284 MEDLINE   DUPLICATE 121
TI   Catabolite repression in Escherichia coli K12 mutants defective in
     glucose   ***transport*** .
SO   MOLECULAR AND GENERAL GENETICS, (1975 Sep 15) 140 (1) 81-90.
     Journal code: NGP. ISSN: 0026-8925.
AU   Gershanovitch V N; Yourovitskaya N V; Komissarova L V; Bolshakova T
     N; Erlagaeva R S; Bourd G I
AN   76050878   MEDLINE

L171 ANSWER 251 OF 284 MEDLINE
TI   Studies in type I glycogenosis: the paradoxical effect of ethanol on
     lactate.
SO   JOURNAL OF PEDIATRICS, (1975 Jan) 86 (1) 37-42.
     Journal code: JLZ. ISSN: 0022-3476.
AU   Sadeghi-Nejad A; Hochman H; Senior B
AN   75078941   MEDLINE

L171 ANSWER 252 OF 284 MEDLINE

TI   Mutations affecting ***transport*** of the hexitols D-mannitol, D-glucitol, and galactitol in Escherichia coli K-12: isolation and mapping.
SO   JOURNAL OF BACTERIOLOGY, (1975 Oct) 124 (1) 26-38.
      Journal code: HH3. ISSN: 0021-9193.
AU   Lengeler J
AN   76024805   MEDLINE

L171 ANSWER 253 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Energy metabolism of beating rat heart cell cultures. II.
      Glucose metabolism.
SO   BIOCHIMIE, (1974) 56/11-12 (1597-1602).
      CODEN: BICMBE
AU   Frelin C.; Pinson A.; Moalic J.M.; Padieu P.
AN   76000120 EMBASE

L171 ANSWER 254 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   The influence of the ***mutational*** damage of the ***phosphoenolpyruvate*** dependent ***phosphotransferase*** system on the ***transport*** of the hydrolyzable .beta. galactosides in Escherichia coli K12 (Russian).
SO   BIOKHIMIYA, (1974) 39/4 (808-810).
      CODEN: BIOIAR
AU   Bolshakova T.N.; Bourd G.I.; Gershanovitch V.N.
AN   75110059 EMBASE

L171 ANSWER 255 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS DUPLICATE 122
TI   ENRICHMENT OF ***MUTANTS*** LACKING THE ***PHOSPHOENOL*** ***PYRUVATE*** DEPENDENT ***PHOSPHO*** ***TRANSFERASE*** SYSTEM OF VIBRIO-PARAHAEMOLYTICUS BY SCREENING WITH METHYL-ALPHA-D GLUCOSIDE.
SO   J BACTERIOL 119 (2). 1974 632-634. CODEN: JOBAAY ISSN: 0021-9193
AU   MATSUMOTO K; IUCHI S; FUJISAWA A; TANAKA S
AN   75:102026 BIOSIS

L171 ANSWER 256 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Promoter like ***mutation*** affecting HPr and enzyme I of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system in Salmonella typhimurium.
SO   J.BACT., (1974) 120/1 (245-252).
      CODEN: JOBAAY
AU   Cordaro J.C.; Anderson R.P.; Grogan E.W. Jr.; et al.
AN   75155374 EMBASE

L171 ANSWER 257 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
TI   Toxicology of amphetamine.
SO   BOL.ASOC.MED.P.R., (1974) 66/2 (28-29).
      CODEN: BAMPAG
AU   Kaye S.; Osorio R.G.
AN   75022246 EMBASE

L171 ANSWER 258 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Carbohydrate ***transport*** and adenosine cyclic 3',5' -monophosphate(cAMP) levels in a temperature sensitive ***phosphotransferase*** ***mutant*** of Escherichia coli
SO   Mol. Gen. Genet. (1974), 129(1), 1-10
      CODEN: MGGEAE
AU   Dahl, Rolf; Morse, Helvise G.; Morse, M. L.

AN   1974:422971 HCAPLUS
DN   81:22971

L171 ANSWER 259 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Vinylglycolic acid. Inactivator of the phosphoenolpyruvate-
     phosphate transferase system in Escherichia coli
SO   J. Biol. Chem. (1973), 248(15), 5456-62
     CODEN: JBCHA3
AU   Walsh, Christopher T.; Kaback, H. Ronald
AN   1973:488712 HCAPLUS
DN   79:88712

L171 ANSWER 260 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
     DUPLICATE 123
TI   Contribution of the cytosol and mitochondrial pathways to
     phosphoenolpyruvate formation during gluconeogenesis.
SO   J.NUTR., (1973) 103/10 (1489-1495).
     CODEN: JONUAI
AU   Peng Y.S.; Brooks M.; Elson C.; Shrago E.
AN   74102924 EMBASE

L171 ANSWER 261 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
     DUPLICATE 124
TI   ***Phosphoenolpyruvate*** dependent ***glucose***
     transport in oral streptococci.
SO   J.DENT.RES., (1973) 52/6 (1209-1215).
     CODEN: JDREAF
AU   Schachtele C.F.; Mayo J.A.
AN   74153269 EMBASE

L171 ANSWER 262 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Metabolism of D-fructose by Arthrobacter pyridinolis
SO   J. Bacteriol. (1973), 113(2), 907-13
     CODEN: JOBAAY
AU   Sobel, Mark E.; Krulwich, Terry A.
AN   1973:107988 HCAPLUS
DN   78:107988

L171 ANSWER 263 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Interrelations between the .beta.-galactoside ***transport***
     system and the phosphoenolpyruvate-dependent phosphotransferase
     system in Escherichia coli K12
SO   Mol. Biol. (Moscow) (1973), 7(3), 318-23
     CODEN: MOBIBO
AU   Burd, G. I; Bol'shakova, T. N.; Gershanovich, V. N.
AN   1973:502496 HCAPLUS
DN   79:102496

L171 ANSWER 264 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Dehydrogenase activity involved in the uptake of ***glucose***
     6-phosphate by a bacterial membrane system
SO   J. Biol. Chem. (1972), 247(14), 4561-5
     CODEN: JBCHA3
AU   Dietz, George W.
AN   1972:511274 HCAPLUS
DN   77:111274

L171 ANSWER 265 OF 284 HCAPLUS COPYRIGHT 1996 ACS

TI   Modifications of hydrolytic and synthetic activities of liver
     microsomal   ***glucose***   6-phosphatase
SO   J. Biol. Chem. (1972), 247(8), 2551-7
     CODEN: JBCHA3
AU   Arion, William J.; Carlson, Pamelia W.; Wallin, Bruce K.; Lange,
     Alex J.
AN   1972:123383 HCAPLUS
DN   76:123383

L171 ANSWER 266 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Evidence for a functional role of pyruvate kinase in decreasing
     gluconeogenesis in the perfused rat liver
SO   Proc. Soc. Exp. Biol. Med. (1972), 140(4), 1399-401
     CODEN: PSEBAA
AU   Kramer, J. W.; Freedland, R. A.
AN   1972:499146 HCAPLUS
DN   77:99146

L171 ANSWER 267 OF 284 MEDLINE   DUPLICATE 125
TI   Significance of   ***altered***   ***carbon***   ***flow***   in
     aromatic   amino acid synthesis: an approach to the isolation
     of regulatory mutants in Pseudomonas aeruginosa.
SO   JOURNAL OF BACTERIOLOGY, (1972 Jan) 109 (1) 365-72.
     Journal code: HH3. ISSN: 0021-9193.
AU   Calhoun D H; Jensen R A
AN   72100762   MEDLINE

L171 ANSWER 268 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Stimulation of kanamycin   ***phosphotransferase***   . Synthesis in
     Escherichia coli by 3',5'-cyclic AMP
SO   J. Antibiot. (1972), 25(2), 144-6
     CODEN: JANTAJ
AU   Tsukada, Isao; Yagisawa, Morimasa; Umezawa, Marie; Hori, Makoto;
     Umezawa, Hamao
AN   1972:414791 HCAPLUS
DN   77:14791

L171 ANSWER 269 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Properties of Escherichia coli mutants with alterations in
     glucose   uptake
SO   Biochem. J. (1972), 127(3), 58P-59P
     CODEN: BIJOAK
AU   Kornberg, H. L.; Reeves, R. E.
AN   1972:445384 HCAPLUS
DN   77:45384

L171 ANSWER 270 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Pyruvate kinase in muscle extracts of the sea mussel Mytilus edulis
SO   Comp. Biochem. Physiol. B (1972), 42(1), 7-14
     CODEN: CBPBB8
AU   De Zwaan, Albertus
AN   1972:430731 HCAPLUS
DN   77:30731

L171 ANSWER 271 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Fluoride inhibition of enolase activity in vivo and its relation to
     the inhibition of glucose 6-phosphate formation in Streptococcus
     salivarius

SO   Arch. Biochem. Biophys. (1971), 146(1), 167-74
     CODEN: ABBIA4
AU   Kanapka, Joseph A.; Hamilton, Ian R.
AN   1972:414758 HCAPLUS
DN   77:14758

L171 ANSWER 272 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Cycle of renewal of intracellular .alpha.-methyl glucoside
     accumulated by the ***glucose*** permease of Escherichia coli
SO   Biochimie (1971), 53(1), 99-105
     CODEN: BICMBE
AU   Haguenauer, Rosine; Kepes, Adam
AN   1971:431618 HCAPLUS
DN   75:31618

L171 ANSWER 273 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Gluconeogenesis in rat liver cytosol. I. Computer analysis of
     experimental data
SO   Comput. Biomed. Res. (1971), 4(1-2), 65-106
     CODEN: CBMRB7
AU   Achs, Murray J.; Anderson, Julius Horne; Garfinkel, David
AN   1971:459040 HCAPLUS
DN   75:59040

L171 ANSWER 274 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Regulation of microsomal enzymes by phospholipids. I. Effect of
     phospholipases and phospholipids on ***glucose*** 6-phosphatase
SO   J. Biol. Chem. (1970), 245(19), 4953-61
     CODEN: JBCHA3
AU   Zakim, David
AN   1970:516335 HCAPLUS
DN   73:116335

L171 ANSWER 275 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Transport and phosphorylation of glucose, fructose, and mannitol by
     Psedudomonas aeruginosa
SO   Arch. Biochem. Biophys. (1970), 138(2), 470-82
     CODEN: ABBIA4
AU   Phibbs, P. V., Jr.; Eagon, Robert G.
AN   1970:442553 HCAPLUS
DN   73:42553

L171 ANSWER 276 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Regulatory effects of ammonia on carbon metabolism in
     photosynthesizing Chlorella pyrenoidosa
SO   Biochim. Biophys. Acta (1970), 205(3), 401-8
     CODEN: BBACAQ
AU   Kanazawa, Tamotsu; Kirk, Martha; Bassham, James A.
AN   1970:484718 HCAPLUS
DN   73:84718

L171 ANSWER 277 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Influence of thyro-parathyroidectomy on the N-acetylneuraminic acid
     content of the parotid and submaxillary glands of the rat
SO   An. Acad. Brasil. Cienc. (1969), 41(1), 133-6
     CODEN: AABCAD
AU   Nicolau, Jose; Fava-de-Moraes, Flavio; Zucas, Sergio M.
AN   1970:10723 HCAPLUS

DN   72:10723

L171 ANSWER 278 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   The role of the ***phosphoenolpyruvate*** - ***phosphotransferase*** system in the ***transport*** of sugars by isolated membrane preparations of Escherichia coli
SO   J. Biol. Chem. (1968), 243(13), 3711-24
     CODEN: JBCHA3
AU   Kaback, H. R.
AN   1968:424755 HCAPLUS
DN   69:24755

L171 ANSWER 279 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Effect of potassium on the organic acid and nonprotein nitrogen content of plant tissue
SO   Role Potassium Agr., Proc. Symp. (1968), Meeting Date 1968, 165-88. Editor(s): Kilmer, V. J.. Publisher: Amer. Soc. of Agron., Madison, Wis.
     CODEN: 20SHA9
AU   Teel, Merle R.
AN   1969:86586 HCAPLUS
DN   70:86586

L171 ANSWER 280 OF 284 MEDLINE
TI   Two classes of pleiotropic ***mutants*** of Aerobacter aerogenes lacking components of a ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** system.
SO   PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1967 Apr) 57 (4) 913-9.
     Journal code: PV3. ISSN: 0027-8424.
AU   Tanaka S; Lin E C
AN   67210603 MEDLINE

L171 ANSWER 281 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Metabolism of ***aromatic*** compounds in healthy and rust-infected primary leaves of wheat. I. Studies with 14CO2, quinate-U-14C, and ***shikimate*** -U-14C as precursors
SO   Can. J. Bot. (1967), 45(6), 863-89
     CODEN: CJBOAW
AU   Rohringer, Roland; Fuchs, Adriaan; Lunderstadt, Jorg; Samborski, D. J.
AN   1967:429923 HCAPLUS
DN   67:29923

L171 ANSWER 282 OF 284 HCAPLUS COPYRIGHT 1996 ACS
TI   Regulation and function of pyruvate kinase and malate enzyme in yeast
SO   Eur. J. Biochem. (1967), 3(1), 11-18
     CODEN: EJBCAI
AU   Fernandez, Maria J.; Medrano, L.; Ruiz-Amil, Manuel; Losada, Manuel
AN   1968:27675 HCAPLUS
DN   68:27675

L171 ANSWER 283 OF 284 MEDLINE
TI   Paths of carbon in gluconeogenesis and lipogenesis. 3. The role and regulation of mitochondrial processes involved in ***supplying*** precursors of ***phosphoenolpyruvate*** .
SO   JOURNAL OF BIOLOGICAL CHEMISTRY, (1966 Jun 10) 241 (11) 2523-32.

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     Journal code: HIV. ISSN: 0021-9258.
AU   Walter P; Paetkau V; Lardy H A
AN   67001075     MEDLINE

L171 ANSWER 284 OF 284  MEDLINE
TI   Paths of carbon in gluconeogenesis and lipogenesis: the role of
     mitochondria in   ***supplying***   precursors of
     ***phosphoenolpyruvate***  .
SO   PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES
     OF AMERICA, (1965 Jun) 53 (6) 1410-5.
     Journal code: PV3. ISSN: 0027-8424.
AU   Lardy H A; Paetkau V; Walter P
AN   66098444     MEDLINE

=> save temp l171 pts/a

ANSWER SET 'L171' HAS BEEN SAVED AS 'PTS/A'

=> log h

COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                    242.27     242.87

 SESSION WILL BE HELD FOR 60 MINUTES
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FILE 'MEDLINE' ENTERED AT 10:51:27 ON 19 APR 96
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	242.27	242.87

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3,67,68,70,74,91,95,99,111,116,123,142,145,148

L171 ANSWER 4 OF 284 MEDLINE DUPLICATE 4

AB Streptococcus ***mutans*** transports ***glucose*** via the ***phosphoenolpyruvate*** (***PEP***)-dependent sugar ***phosphotransferase*** system (PTS). Earlier studies indicated that an alternate ***glucose*** ***transport*** system functions in this organism under conditions of high growth rates, low pH, or excess ***glucose*** . To identify this system, S. mutans BM71 was transformed with integration vector pDC-5 to generate a mutant, DC10, defective in the general PTS protein enzyme I (EI). This mutant expressed a defective EI that had been truncated by approximately 150 amino acids at the carboxyl terminus as revealed by Western blot (immunoblot) analysis with anti-EI antibody and Southern hybridizations with a fragment of the wild-type EI gene as a probe. Phosphotransfer assays utilizing 32P- ***PEP*** indicated that DC10 was incapable of phosphorylating HPr and EIIAMan, indicating a nonfunctional PTS. This was confirmed by the fact that DC10 was able to ferment ***glucose*** but not a variety of other PTS substrates and phosphorylated ***glucose*** with ATP and not ***PEP*** . Kinetic assays indicated that the non-PTS system exhibited an apparent Ks of 125 microM for ***glucose*** and a Vmax of 0.87 nmol mg (dry weight) of cells-1 min-1. Sugar competition experiments with DC10 indicated that the non-PTS ***transport*** system had high specificity for ***glucose*** since ***glucose*** ***transport*** was not significantly by a 100-fold molar excess of several competing sugar substrates, including 2-deoxyglucose and alpha-methylglucoside. These results demonstrate that S. mutans possesses a ***glucose*** ***transport*** system that can function independently of the

PEP   PTS.

L171 ANSWER 10 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)

L171 ANSWER 21 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.

AB In gram-positive bacteria, HPr, a phosphocarrier protein of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system (PTS), is phosphorylated by an ATP-dependent, metabolite-activated protein kinase on seryl residue 46. In a Bacillus subtilis mutant strain in which Ser-46 of HPr was replaced with a nonphosphorylatable alanyl residue (ptsH1 mutation), synthesis of gluconate kinase, glucitol dehydrogenase, mannitol-1-P dehydrogenase and the mannitol- specific PTS permease was completely relieved from repression by ***glucose*** , fructose, or mannitol, whereas synthesis of inositol dehydrogenase was partially relieved from catabolite repression and synthesis of .alpha.-glucosidase and glycerol kinase was still subject to catabolite repression. When the S46A mutation in HPr was reverted to give S46 wild-type HPr, expression of gluconate kinase and glucitol dehydrogenase regained full sensitivity to repression by PTS sugars. These results suggest that phosphorylation of HPr at Ser-46 is directly or indirectly involved in catabolite repression. A strain deleted for the ptsGH1 genes was transformed with plasmids expressing either the wild-type ptsH gene or various S46 mutant ptsH genes (S46A or S46D). Expression of the gene encoding S46D HPr, having a structure similar to that of P-ser-HPr according to nuclear magnetic resonance data, caused significant reduction of gluconate kinase activity, whereas expression of the genes encoding wild-type or S46A HPr had no effect on this enzyme activity. When the promoterless lacZ gene was put under the control of the gnt promoter and was subsequently incorporated into the amyE gene on the B. subtilis chromosome, expression of .beta.-galactosidase was inducible by gluconate and repressed by ***glucose*** . However, we observed no repression of .beta.-galactosidase activity in a strain carrying the ptsH1 mutation. Additionally, we investigated a ccpA mutant strain and observed that all of the enzymes which we found to be relieved from carbon catabolite repression in the ptsH1 mutant strain were also insensitive to catabolite repression in the ccpA mutant. Enzymes that were repressed in the ptsH1 mutant were also repressed in the ccpA mutant.

L171 ANSWER 22 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS

AB Streptococcus mutans, an important aetiological agent of dental caries, is known to ***transport*** ***glucose*** via the ***phosphoenolpyruvate*** (***PEP***) ***phosphotransferase*** system (PTS). An alternative non-PTS ***glucose*** ***transport*** system in S. mutans Ingbritt was suggested by the increased ATP-dependent phosphorylation of ***glucose*** and the presence of higher cellular concentrations of free ***glucose*** in cells grown in continuous culture under PTS-repressed conditions compared to those resulting in optimal PTS activity. A method was developed for the preparation of membrane vesicles in order to study this system in the absence of PTS activity. These vesicles had very low activity of the cytoplasmic enzymes, glucokinase, pyruvate kinase and lactate dehydrogenase. This, coupled with the lack of glycolytic activity and the inability to ***transport*** ***glucose*** , suggested that the vesicles would also be deficient in PTS activity because of the absence of the

general soluble PTS proteins, Enzyme I and HPr, required for the ***transport*** of all PTS sugars. Freeze-fracture electron microscopy and membrane H+-ATPase analysis indicated that over 90% of the vesicles had a right-side-out orientation. Vesicles from cells grown in continuous culture under PTS-dominant and PTS-repressed conditions both exhibited ***glucose*** counterflow. This indicates the presence of a constitutive non-PTS carrier in the organism capable of transporting ***glucose*** and utilizing ATP for ***glucose*** phosphorylation. Analysis of growth yields of cells grown under PTS-repressed and PTS-optimal conditions suggests that ATP, or an equivalent high energy molecule, must be involved in the actual ***transport*** process. This analysis is consistent with an ATP-binding protein model such as the Msm ***transport*** system reported by R. R. B. Russell and coworkers (J Biol Chem 267, 4631-4637), but it does not exclude the possibility of a separate permease for ***glucose*** .

L171 ANSWER 26 OF 284 SCISEARCH COPYRIGHT 1996 ISI (R)DUPLICATE 15

AB We have used the toxic non-metabolizable ***glucose*** / mannose analogue 2-deoxyglucose to isolate a comprehensive collection of ***mutants*** of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system from Streptococcus salivarius. To increase the range of possible ***mutations*** , we isolated spontaneous mutants on different media containing P-deoxyglucose and various metabolizable sugars, either lactose, melibiose, galactose or fructose. We found that the frequency at which 2-deoxyglucose-resistant mutants were isolated varied according to the growth substrate. The highest frequency was obtained with the combination galactose and 5-deoxyglucose and was 15-fold higher than the rate observed with the mixture melibiose and P-deoxyglucose, the combination that gave the lowest frequency. By combining results from: (i) Western blot analysis of IIIMan, a specific component of the phosphaenolpyruvate:mannose ***phosphotransferase*** system in S. salivarius; (ii) rocket immunoelectrophoresis of HPr and El, the two general energy-coupling proteins of the ***phosphotransferase*** system; and (iii) from gene sequencing, ***mutants*** could be assigned to seven classes. Class 1 was composed of strains devoid of IIIMan, a low-molecular-weight form of IIIMan (35 200), class 2 was composed of strains exhibiting a reduced level of IIILMan, class 3 was composed of strains devoid of both forms of IIIMan (IIILMan as well as IIIHMan, the high-molecular-weight form of IIIMan (38900)), class 4 was composed of mutants bearing a mutation in ptsH, the gene encoding HPr, class 5 was composed of mutants bearing a mutation in ptsi, the gene encoding El, class 6 was composed of 2-deoxyglucose-resistant strains without any apparent defect in PTS components, and class 7 was composed of strains possessing both forms of IIIMan but abnormal levels of HPr and/or El without any mutation in the ptsH and/or the ptsI genes. Preliminary characterization of representative strains of each class is reported.

L171 ANSWER 33 OF 284 MEDLINE DUPLICATE 20

AB Although E. coli central metabolism has been studied for several decades, many regulatory features are still unknown. To achieve the goal of rational manipulation of cellular metabolism, it is important to understand how E. coli responds to overexpressed enzymes. By studying the biochemical control of fluxes between PEP,

pyruvate, and OAA, we have addressed some fundamental questions that may prove to be essential for applications in metabolic engineering. First, we found that simultaneous overexpression of Pck and Ppc, or Pps alone in the presence of glucose leads to phenotypes consistent with futile cycline. In contrast to our expectation, futile cycling per se does not affect the growth rate significantly. However, excessive futile cycling may cause competitive disadvantage in the natural environment. Overexpression of Pck caused growth inhibition but no futile cycling. Therefore, E. coli controls the expression of gluconeogenic enzymes not only to avoid excessive futile cycling, but also to prevent toxicity effects. In metabolic engineering, futile cycling may be used as a strategy to stimulate metabolism for either production of metabolites or digestion of toxic wastes. Second, we found that the expression levels of Pps and Pck in E. coli are not optimal for growth on pyruvate and succinate, respectively. Overexpression of these enzymes increases the growth rate on pyruvate and on succinate, respectively, indicating that the slow growth rates on these substrates are at least partially caused by the insufficient ***supply*** of ***PEP*** and its derivatives. Moreover, E. coli also has not optimized the Ppc level for optimal growth yield on glucose in uncontrolled batch cultures. These results demonstrate that the central metabolism is not optimized for growth under defined laboratory conditions. Thus, the possibility exists that adjustment of native enzyme levels in the central metabolism can improve bioreactor performance. Third, we found that overexpression of Pck affects the transcriptional levels of unrelated genes. This example indicates that physiological responses to enzyme (over)expression should be interpreted cautiously, as changing the expression level of a specific enzyme may affect many unlinked genes. Similar results have also been obtained by use of two-dimensional electrophoresis of proteins from E. coli. Although more questions remain to be answered, fast progress in the area of metabolic engineering can be expected in the near future.

L171 ANSWER 40 OF 284 SCISEARCH

AB In plants, sucrose is the end product of photosynthesis and is converted to a wide variety of storage compounds in tissues such as seeds and tubers. The allocation of carbon from sucrose to the various metabolic pathways leading to these products will determine the quantity of each synthesized in the respective storage organs. If the level of the enzymes involved in the allocation of carbon could be changed by genetic manipulation, it is probable that the relative yields of the various storage products can also be altered. The initial breakdown of sucrose occurs in the cytosol of the cell. Many biosynthetic pathways, however, including those involved in the synthesis of storage products such as fatty acids, starch, and amino acids, occur in the plastid. The distribution of carbon substrates for these processes will be determined, to a large extent, by the ***flux*** of ***carbon*** through the glycolytic pathways found in both the cytosolic and plastid compartments. This article will discuss the importance and consequences of compartmentation, review the extent of our understanding of glycolysis and other enzymes and pathways regulating carbon allocation, and will speculate on the potential for the genetic manipulation of these pathways.

L171 ANSWER 41 OF 284 BIOTECHDS

AB The fermentation profile of a Corynebacterium glutamicum (melassecola) ATCC 17965 batch culture on ***glucose*** showed 3 distinct phases dependent on oxygen availability. In the initial phase of exponential growth under oxygen sufficient conditions, no products other than CO2 were produced. After 5.5 hr of fermentation, the aeration and stirrer speed were reduced to create O2-limited growth conditions. This was followed by a period of transition before the growth rate was re-established, and resulted in the appearance of lactic acid and, at lower levels, succinic acid and acetic acid, in the medium. When the initial aeration and stirrer conditions were restored after 14 hr, lactic acid was rapidly, and succinic acid and acetic acid less rapidly, consumed. A slight accumulation of pyruvic acid was also noted. The results suggest that restructuring of carbon flux through the central metabolic pathways occurred, with a decrease in pentose pathway flux and the operation of the tricarboxylic acid cycle in a reductive mode. The possibility of utilizing sugars and organic acids to produce e.g. glutamic acid and alanine is considered. (6 ref)

L171 ANSWER 48 OF 284 HCAPLUS COPYRIGHT 1996 ACS

AB Mutations that uncouple ***glucose*** ***transport*** from phosphorylation were isolated in plasmid-encoded E. coli enzyme IIGlc of the ***phosphoenolpyruvate*** -dependent sugar ***phosphotransferase*** system (PTS). The uncoupled enzymes IIGlc were able to ***transport*** ***glucose*** in the absence of the general phosphoryl-carrying proteins of the PTS (enzyme I and HPr), although with relatively low affinity. The Km values of the uncoupled enzymes IIGlc for ***glucose*** were 0.5-2.5 mM, 2 orders of magnitude higher than the value of normal IIGlc. Most of the mutant proteins were still able to phosphorylate ***glucose*** and Me .alpha.-glucoside (a nonmetabolizable ***glucose*** analog specific for IIGlc), indicating that ***transport*** and phosphorylation are separable functions of the enzyme. Some of the uncoupled enzymes IIGlc transported ***glucose*** with a higher rate and lower apparent Km in a pts+ strain than in a .DELTA.ptsHI strain lacking the general proteins, enzyme I and HPr. Since the properties of these uncoupled enzymes IIGlc in the presence of PTS-mediated phosphoryl transfer resembled those of wild-type IIGlc, these mutants appeared to be conditionally uncoupled. Sequencing of the mutated ptsG genes revealed that all amino acid substitutions occurred in a hydrophilic segment within the hydrophobic N-terminal part of IIGlc. These results suggest that this hydrophilic loop is involved in binding and translocation of the sugar substrate.

L171 ANSWER 52 OF 284 MEDLINE DUPLICATE 29

AB The ***phosphoenolpyruvate*** ***phosphotransferase*** system (PTS) component EIIIGlc is responsible for ***transport*** and phosphorylation of ***glucose*** via EIIGlc. It also regulates the catabolism of other carbon sources, such as lactose and maltose, by modulating both the intracellular concentrations of the corresponding inducers and of cAMP. Mutational analysis of EIIIGlc was performed in order to identify crucial residues mediating the interactions between EIIIGlc and its target proteins. Such mutations were isolated by in vitro hydroxylamine mutagenesis of the cloned EIIIGlc gene, crr. Five mutated EIIIGlc impaired in the function of inducer exclusion were obtained. However, these

mutations did not abolish the function of EIIIGlc in the ***transport*** and phosphorylation of ***glucose*** , nor in activation of adenylate cyclase. A single amino acid change was found for each mutation, which is located in a restricted area of the polypeptide chain: Gly47-->Ser47 for the HA2 and HA5 mutations, Ala76-->Thr76 for HA4 mutation and Ser78-->Phe78 for HA3 mutation, indicative of quaternary interactions between the corresponding region of EIIIGlc and its target protein(s).

L171 ANSWER 60 OF 284 MEDLINE

AB The hom-thrB operon (homoserine dehydrogenase/homoserine kinase) and the thrC gene (threonine synthase) of Corynebacterium glutamicum ATCC 13,032 and the homFBR (homoserine dehydrogenase resistant to feedback inhibition by threonine) alone as well as homFBR-thrB operon of C. glutamicum DM 368-3 were cloned separately and in combination in the Escherichia coli/C. glutamicum shuttle vector pEK0 and introduced into different corynebacterial strains. All recombinant strains showed 8- to 20-fold higher specific activities of homoserine dehydrogenase, homoserine kinase, and/or threonine synthase compared to the respective host. In wild-type C. glutamicum, amplification of the threonine genes did not result in secretion of threonine. In the lysine producer C. glutamicum DG 52-5 and in the lysine-plus-threonine producer C. glutamicum DM 368-3 overexpression of hom-thrB resulted in a notable shift of ***carbon*** ***flux*** from lysine to threonine whereas cloning of homFBR-thrB as well as of homFBR in C. glutamicum DM 368-3 led to a complete shift towards threonine or towards threonine and its precursor homoserine, respectively. Overexpression of thrC alone or in combination with that of homFBR and thrB had no effect on threonine or lysine formation in all recombinant strains tested.

L171 ANSWER 63 OF 284 MEDLINE DUPLICATE 32

AB The capacity to sustain the large fluxes of carbon and energy required for rapid metabolite production appears to be inversely related to the growth efficiency of micro-organisms. From an overall energetic point of view three main classes of metabolite may be distinguished. These are not discrete categories, as the energetics of biosynthesis will depend on the precise biochemical pathways used and the nature of the starting feed stock(s). (1) For metabolites like exopolysaccharides both the oxidation state and the specific rate of production appear to be inversely related to the growth efficiency of the producing organism. Maximum rates of production are favored when ***carbon*** and energy ***flux*** are integrated, and ***alteration*** of this balance may negatively effect production rates. (2) The production of metabolites like organic acids and some secondary metabolites results in the net production of reducing equivalents and/or ATP. It is thought that the capacity of the organism to dissipate this product-associated energy limits its capacity for rapid production. (3) For metabolites like biosurfactants and certain secondary metabolites that are composed of moieties of significantly different oxidation states production from a single carbon source is unfavorable and considerable improvements in specific production rate and final broth concentration may be achieved if mixed carbon sources are used. By careful selection of production organism and starting feedstock(s) it may be possible to tailor the production, such that the adverse physiological consequences of metabolite overproduction on the production organism are minimized.

L171 ANSWER 67 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
AB A DNA fragment, isolated from a Corynebacterium glutamicum strain containing a DNA sequence encoding production of a protein with phosphoenolpyruvate-carboxylase (EC-4.1.1.31) activity, is new. More specifically, the DNA fragment comprises 3422 bp flanked by SalI restriction sites, or 2757 bp encoding the structural gene of phosphoenolpyruvate-carboxylase. The DNA fragment has a specified N-terminal amino acid sequence, and is isolated from C. glutamicum ATCC 13032. Replication vectors, specifically plasmid pDM2 and plasmid pDM6, and Corynebacterium sp. DSM 4697 and Brevibacterium sp. 5399 are also new. A new process for production of L-amino acids such as L-methionine, L-glutamic acid, L-glutamine, L-proline, L-arginine, L-citrulline, L-ornithine and, preferably, L-lysine, L-isoleucine and L-threonine, involves culturing Corynebacterium sp. DSM 4697 or Brevibacterium sp. DSM 5399 containing pDM2 or pDM6, and recovering the L-amino acid from the fermentation broth. ***Phosphoenolpyruvate*** -carboxylase ensures a constant ***supply*** of oxaloacetic acid to the host cell, thus increased biosynthetic levels of L-amino acids. (29pp)

L171 ANSWER 68 OF 284 MEDLINE DUPLICATE 35
AB Maltose ***transport*** in Escherichia coli is regulated at the protein level by the ***glucose*** -specific enzyme III (IIIglc) of the ***phosphoenolpyruvate*** -sugar ***phosphotransferase*** system, by a mechanism known as inducer exclusion. We have isolated and characterized four mutants in the maltose ***transport*** system, all of which are in malK, which are resistant to inducer exclusion. The mutations in three of these mutants fall within the COOH-terminal domain of MalK and suggest the first reported function for this domain. Two of these are in a region which shows sequence similarity to lacY and melB, both of which are also regulated by IIIglc, and thus may define a IIIglc-binding domain. We have also reconstituted inducer exclusion in proteoliposomes made from membranes overexpressing the maltose permease. Maltose ***transport*** is inhibited by 50-60% when IIIglc is included in the intravesicular space. The inhibition is due to a decrease in the Vmax of ***transport*** by a factor of 2. IIIglc does not affect the coupling of ATP hydrolysis to maltose ***transport*** , since the ratio of ATP hydrolyzed/maltose transported remained constant in the presence and absence of IIIglc. Finally, the Ki for IIIglc was 40 microM, roughly the same as the in vivo concentration of IIIglc.

L171 ANSWER 70 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
AB The substrates synthesized by aroE mutants of Escherichia coli (lacking ***shikimate*** -dehydrogenase, EC-1.1.1.25) were investigated following transformation with plasmids which drastically ***increase*** the ***flow*** of ***carbon*** into the common pathway of ***aromatic*** amino acid biosynthesis. Analysis of the culture medium of E. coli AB2834 aroE indicated that 9 mM 3-dehydroshikimate (DHS) was synthesized with significant amounts of unidentified contamination. E. coli AB2834 aroE was transformed with plasmid pKD130A, which encodes transketolase (EC-2.2.1.1) and DAHP-synthase, enzymes which ***increase*** the ***carbon*** ***flow*** into the common pathway. The concentration of DHS in the culture medium of the transformant increased to 25 mM, and 9 mM 3-deoxy-D-arabino-

heptulosonic acid (DAH) was synthesized. The ratio of DHS and DAH indicates that neither the genomic aroE mutation nor the rate-limiting 3-dehydroquinate-synthase completely dictates the direction of plasmid-based biocatalysis. The genomic aroE mutation determined the enzyme substrate which was synthesized in excess. (23 ref)

L171 ANSWER 74 OF 284 MEDLINE DUPLICATE 39

AB Pediococcus halophilus possesses ***phosphoenolpyruvate*** :mannose ***phosphotransferase*** system (man:PTS) as a main ***glucose*** transporter. A man:PTS defective (man:PTSd) strain X-160 could, however, utilize ***glucose*** . A possible ***glucose*** - ***transport*** mechanism other than PTS was studied with the strain X-160 and its derivative, man:PTSd phosphofructokinase defective (PFK-) strain M-13. ***Glucose*** uptake by X-160 at pH 5.5 was inhibited by any of carbonylcyanide m-chlorophenylhydrazone, nigericin, N,N'-dicyclohexylcarbodiimide, or iodoacetic acid. The double mutant M-13 could still ***transport*** ***glucose*** and accumulated intracellularly a large amount of hexose-phosphates (ca. 8 mM ***glucose*** 6-phosphate and ca. 2 mM fructose 6-phosphate). Protonophores also inhibited the ***glucose*** ***transport*** at pH 5.5, as determined by the amounts of accumulated hexose-phosphates (less than 4 mM). These showed involvement of proton motive force (delta P) in the non-PTS ***glucose*** ***transport*** . It was concluded that the non-PTS ***glucose*** transporter operated in concert with hexokinase or glucokinase for the metabolism of ***glucose*** in the man:PTSd strain.

L171 ANSWER 91 OF 284 MEDLINE DUPLICATE 50

AB The first branch point in gluconeogenesis occurs at the conversion of pyruvate to oxaloacetate. To determine the amount of lactate carbon reaching ***glucose*** via the direct pyruvate carboxylase pathway versus the tricarboxylic acid cycle, adult rat hepatocytes in primary culture were incubated for 2 h with one of the following isotopic substrates: [1-14C]lactate, [U-14C]lactate, or [1,2-14C]acetate. Production of 14CO2 and [14C] ***glucose*** from each substrate was assessed. The amount of lactate carbon 2 and 3 incorporated into ***glucose*** or oxidized to CO2 was determined by subtracting values using [1-14C]lactate from those using [U-14C]lactate. After quantitation of CO2 formed from carbons 2 and 3 of lactate, the amount of these carbons incorporated into ***glucose*** via the tricarboxylic acid cycle can be determined by simple proportionality from the ratio of label incorporated into ***glucose*** or CO2 from [1,2-14C]acetate. The remaining carbons 2 and 3 of lactate incorporated into ***glucose*** are derived from the pyruvate carboxylase pathway directly. Ethanol which on oxidation provides NADH and acetate decreased lactate oxidation and enhanced the pyruvate carboxylase pathway. Glucagon ***increased*** ***carbon*** ***flux*** through both pathways but primarily through the pyruvate carboxylase pathway. In summary, a simple model is presented to examine carbon flux from lactate via the pyruvate carboxylase and tricarboxylic acid pathways during gluconeogenesis.

L171 ANSWER 95 OF 284 MEDLINE

AB In photosynthetic bacteria such as members of the genera Rhodospirillum, Rhodopseudomonas, and Rhodobacter a single sugar,

fructose, is transported by the ***phosphotransferase*** system-catalyzed group translocation mechanism. Previous studies indicated that syntheses of the three fructose catabolic enzymes, the integral membrane enzyme II, the peripheral membrane enzyme I, and the soluble fructose-1-phosphate kinase, are coordinately induced. To characterize the genetic apparatus encoding these enzymes, a Tn5 insertion mutation specifically resulting in a fructose-negative, ***glucose*** -positive phenotype was isolated in Rhodobacter capsulatus. The mutant was totally lacking in fructose fermentation, fructose uptake in vivo, ***phosphoenolpyruvate*** -dependent fructose phosphorylation in vitro, and fructose 1-phosphate-dependent fructose transphosphorylation in vitro. Extraction of the membrane fraction of wild-type cells with butanol and urea resulted in the preparation of active enzyme II free of contaminating enzyme I activity. This preparation was used to show that the activity of enzyme I was entirely membrane associated in the parent but largely soluble in the mutant, suggesting the presence of an enzyme I-enzyme II complex in the membranes of wild-type cells. The uninduced mutant exhibited measurable activities of both enzyme I and fructose-1-phosphate kinase, which were increased threefold when it was grown in the presence of fructose. Both activities were about 100-fold inducible in the parental strain. Although the Tn5 insertion mutation was polar on enzyme I expression, fructose-1-phosphate kinase activity was enhanced, relative to the parental strain. ATP-dependent fructokinase activity was low, but twofold inducible and comparable in the two strains.(ABSTRACT TRUNCATED AT 250 WORDS)

L171 ANSWER 99 OF 284 MEDLINE DUPLICATE 55

AB Expression of catabolite sensitive operons is repressed in E. coli mutants devoid of HPr--a component of ***glucose*** ***transport*** system. The ptsH ***mutants*** do not utilize the substrates for ***phosphoenolpyruvate*** dependent ***phosphotransferase*** system (PTS) except for fructose. Besides that, the ***mutants*** are deficient in utilization of many substrates entering the bacteria via the other ***transport*** systems. The ptsS mutation mapped in the region of the fructose regulon on the 46th min of the chromosomal map restores the growth of ptsH mutants on all substrates. The accumulation and ***PEP*** -dependent phosphorylation of proteins substrates of PTS is also restored. The synthesis of the fructose specific ***phosphotransferase*** system becomes constitutive under the effect of ptsS ***mutation*** . The ***mutation*** is supposed to impair the regulatory region of the fructose regulon.

L171 ANSWER 111 OF 284 HCAPLUS COPYRIGHT 1996 ACS

AB The expression of catabolite-sensitive operons in mutants devoid of protein HPr (a component of the ***glucose*** ***transport*** system) is severely repressed. E. coli ptsH ***Mutants*** do not utilize substrates of the ***phosphoenolpyruvate*** :carbohydrate ***phosphotransferase*** [56941-29-8] system (PTS) and many other sugars, and do not ***transport*** PTS. Anal. of mutations suppressing the effect of the ptsH mutation revealed a new class of reversions which restore the growth of bacteria on different substrates. This mutation (named ptsS) increases the growth rate of ptsH mutants and increases the differential rate of .beta.-galactosidase prodn. The ptS mutation was mapped in the region of ptsF (gene) (coding for the

fructose-specific enzyme II of the PTS) on the 46th min. of the E. coli chromosome map. The effect of the ptsS mutation on the expression of catabolite-sensitive operons is obsd. only in the presence of the intact enzyme I of the PTS.

L171 ANSWER 116 OF 284 MEDLINE DUPLICATE 63

AB During growth of Escherichia coli on acetate, isocitrate dehydrogenase (ICDH) is partially inactivated by phosphorylation and is thus rendered rate-limiting in the Krebs cycle so that the intracellular concentration of isocitrate rises which, in turn, permits an ***increased*** ***flux*** of ***carbon*** through the anaplerotic sequence of the glyoxylate bypass. A large number of metabolites stimulate ICDH phosphatase and inhibit ICDH kinase in the wild-type (E. coli ML308) and thus regulate the utilization of isocitrate by the two competing enzymes, ICDH and isocitrate lyase. Addition of pyruvate to acetate grown cultures triggers a rapid dephosphorylation and threefold activation of ICDH, both in the wild-type (ML308) and in mutants lacking pyruvate dehydrogenase (ML308/Pdh-), ***PEP*** synthase (ML308/Pps-) or both enzymes (ML308/Pdh-Pps-). Pyruvate stimulates the growth on acetate of those strains with an active ***PEP*** synthase but inhibits the growth of those strains that lack this enzyme. When pyruvate is exhausted, ICDH is again inactivated and the growth rate reverts to that characteristic of growth on acetate. Because pyruvate stimulates dephosphorylation of ICDH in strains with differing capabilities for pyruvate metabolism, it seems likely that pyruvate itself is a sufficient signal to activate the dephosphorylation mechanism, but this does not discount the importance of other signals under other circumstances.

L171 ANSWER 123 OF 284 MEDLINE DUPLICATE 68

AB Rat liver cytosolic enzyme preparation catalyses the formation of sedoheptulose 1,7-P2 (60% of total heptulose-P formed) from hexose 6-P and triose 3-P (reverse mode of pentose pathway operation). Smaller amounts of sedoheptulose 1,7-P2 are also formed from ribose 5-P during the non-oxidative synthesis of hexose 6-P (forward pentose pathway operation). The apparent absence of erythrose 4-P in biological systems may be explained by its contribution to carbons 4,5,6 and 7 of sedoheptulose 1,7-P2 as well as its pronounced ability to exist in dimeric form. Apart from the aldolase catalyzed formation of sedoheptulose 1,7-P2, 6-phosphofructokinase also catalyses its formation from sedoheptulose 7-P and fructose 1,6-bisphosphatase catalyses its dephosphorylation. These three enzymes may contribute to the regulation of ***carbon*** ***flux*** through the near equilibrium reactions of the non-oxidative pentose phosphate pathway in vivo. The ***phosphotransferase*** enzyme of the L-type pentose pathway is also able to catalyse the interconversion of sedoheptulose mono and bisphosphates via D-glycero D-ido octulose-P.

L171 ANSWER 142 OF 284 BIOSIS

L171 ANSWER 145 OF 284 MEDLINE DUPLICATE 77

AB Spontaneous ***mutants*** defective in a membrane component of the ***phosphoenolpyruvate*** - ***glucose*** ***phosphotransferase*** system were isolated by plating cells of Streptococcus sanguis 10556, Streptococcus mutans GS5-2 and NCTC 10449 on agar containing lactose and 2-deoxyglucose. Toluenized

cells of these mutants were defective in their ability to catalyse the ***phosphoenolpyruvate*** -dependent phosphorylation of 2-deoxyglucose. The parental strains were mainly homofermentative when grown in batch culture in the presence of various sugars. Nevertheless, the mutants produced acetate, formate and ethanol when cultured in the presence of ***glucose*** but were homofermentative when grown in the presence of lactose or maltose. Analysis of one mutant isolated from Strep. sanguis (mutant GS26) revealed normal levels of glucokinase, ***glucose*** -6-phosphate dehydrogenase, puruvate kinase and lactate dehydrogenase. This last enzyme was dependent on fructose 1,6-diphosphate for catalytic activity. The determination of the intracellular level of fructose 1,6-diphosphate (FDP) during growth of the cells in batch culture showed that the mutant strains contained 2 to 15 times less FDP than the parental strains. Growth experiments performed at pH 6.0 and 7.0 with Strep. sanguis and its PTS-negative mutant GS26 suggested that the regulation of pyruvate metabolism in this bacterium include the intracellular level of FDP and the initial hydrogen concentration of the growth medium. The results also suggested that, in these bacteria, an active PTS is required to maintain the intracellular concentration of FDP high enough to keep the cell homofermentative during growth in batch culture.

L171 ANSWER 148 OF 284 BIOSIS

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=> d ab 154,167,169,173,177,198,209,228,232-236,249,269,280,283,284,17


L171 ANSWER 154 OF 284  HCAPLUS  COPYRIGHT 1996 ACS
AB   The presence of a 3rd system for   ***glucose***   uptake was
     demonstrated in an E. coli   ***mutant***   (CAC-2) deficient in
     ***phosphoenolpyruvate***  -  ***glucose***
     ***phosphotransferase***   and in   ***phosphoenolpyruvate***
     -mannose   ***phosphotransferase***   systems. CAC-2 grew well on
     ***glucose***   deposit lacking both   ***glucose***
     ***transport***   systems. In glycerol-grown CAC-2,   ***glucose***
     utilization was not obsd., indicating the absence of the 3rd system,
     whereas growth on   ***glucose***   induced the system. In addn.,
     CAC-2 utilized glycerol preferentially and   ***glucose***
     utilization was inhibited until glycerol was exhausted by the cells.
     Also, glycerol addn. to a culture of CAC-2 growing on
     ***glucose***   immediately halted   ***glucose***   utilization.
     These results show that this   ***glucose***   uptake system is
     distinguishable from the 2 other known systems.

L171 ANSWER 167 OF 284  MEDLINE                           DUPLICATE 86

L171 ANSWER 169 OF 284  MEDLINE                           DUPLICATE 87
AB   The   ***transport***   of sucrose by selected mutant and wild-type
     cells of Streptococcus mutans was studied using washed cocci
     harvested at appropriate phases of growth, incubated in the presence
     of fluoride and appropriately labelled substrates. The rapid sucrose
     uptake observed cannot be ascribed to possible extracellular
     formation of hexoses from sucrose and their subsequent
     ***transport***   , formation of intracellular glycogen-like
     polysaccharide, or binding of sucrose or extracellular glucans to
     the cocci. Rather, there are at least three discrete
     ***transport***   systems for sucrose, two of which are
     ***phosphoenolpyruvate***  -dependent   ***phosphotransferases***
     with relatively low apparent Km values and the other a non-
     ***phosphotransferase***   (non-PTS) third   ***transport***
     system (termed TTS) with a relatively high apparent Km. For strain
     6715-13 mutant 33, the Km values are 6.25 X 10(-5) M, 2.4 X 10(-4)
     M, and 3.0 X 10(-3) M, respectively: strain NCTC-10449, the Km
     values are 7.1 X 10(-5) M, 2.5 X 10(-4) M and 3.3 X 10(-3) M,
     respectively. The two lower Km systems could not be demonstrated in
     mid-log phase   ***glucose***   -adapted cocci, a condition known to
     repress sucrose-specific   ***phosphotransferase***   activity, but
     under these conditions the highest Km system persists. Also, a
     ***mutant***   devoid of sucrose-specific   ***phosphotransferase***
     activity fails to evidence the two high affinity (low apparent Km)
     systems, but still has the lowest affinity (highest Km) system.
     There was essentially no uptake at 4 degrees C indicating these
     processes are energy dependent. The third   ***transport***
     system, whose nature is unknown, appears to function under
     conditions of sucrose abundance and rapid growth which are known to
     repress   ***phosphoenolpyruvate***  -dependent sucrose-specific
     ***phosphotransferase***   activity in S.   ***mutans***   . These
     multiple   ***transport***   systems seem well-adapted to S. mutans
     which is faced with fluctuating supplies of sucrose in its natural
     habitat on the surfaces of teeth.
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L171 ANSWER 173 OF 284 HCAPLUS COPYRIGHT 1996 ACS
AB Two stable ***mutants*** of Yersinia pestis defective in the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system (pts), were obtained by treatment of the wild-type strain (EV) with MNNG. Both mutants, designated EV M-21 and EV M-8 k.2/2, were not able to grown in a minimal medium contg. ***glucose*** , fructose, mannose, or mannitol as a C source, but grew well on ***glucose*** 6-phosphate, fructose 6-phosphate, and Na gluconate. When incubated with [14C]methyl-.alpha.-D-glucopyranoside, the mutant cells did not take up 14C. The activity of ***phosphoenolpyruvate*** : ***glucose*** ***phosphotransferase*** was absent in EV M-21 and was decreased in EV M-8 k.2/2, as compared with the wild-type strain. Both mutants are defective in enzyme I of the pts, and EV M-8 k.2/2 is probably a leaky mutant.

L171 ANSWER 177 OF 284 BIOSIS COPYRIGHT 1996 BIOSIS

L171 ANSWER 198 OF 284 HCAPLUS COPYRIGHT 1996 ACS
AB An E. coli mutant jOD5 with deletion in the ptsH gene was selected from cells cured of the thermosensitive prophage .lambda.CI857. At 37.degree. the mutant did not ferment ***glucose*** , mannose, sorbitol, mannitol, lactose, maltose, or glycerol, but formed colored colonies on EMB (eosinmethylene blue) agar with fructose, gluconate, arabinose, and galactose, i.e., it had the phenotype of a ptsH mutant. Biochem. characterization showed that the decreased in vitro ***phosphoenolpyruvate*** (***PEP***)-dependent phosphorylation of methyl .alpha.-glucoside was due to the lack of protein HPr. The activity of enzyme I was not changed. When grown in the presence of 0.5% fructose, the ***mutant*** possessed high ***PEP*** :fructose ***phosphotransferase*** activity. ***Transport*** of mannitol and methyl .alpha.-glucoside was decreased, whereas fructose uptake was not. The absence of HPr in the mutant caused repression of .beta.-galactosidase synthesis, the repression was not restored by addn. of cyclic AMP.

L171 ANSWER 209 OF 284 MEDLINE DUPLICATE 99
AB Two types of in vitro fosfomycin-resistant mutants defective in multiple carbohydrate utilization were selected from Escherichia coli strain K--12. One ***mutant*** , FR182, was defective in ***phosphoenolpyruvate*** : sugar ***phosphotransferase*** system and the ability to form adenosine 3',5'-cyclic monophosphate (cAMP) was lowered. Another mutant, FR190, was defective in cAMP formation. Restoration by cAMP of fosfomycin (FOM) sensitivity coupled with recovery of utilization of many carbohydrates including sn-glycerol-3-phosphate (G-3-P) was observed in both of the resistant mutants. FOM was not taken up by these resistant strains but, in the cells cultured in the presence of cAMP, accumulation of FOM was equivalent to that of the sensitive parent strain. Decreased uptake of G-3-P was also restored in both of the resistant strains cultured in the presence of cAMP. These results indicate that the resistance to FOM in these mutants is due to impairment of G-3-P ***transport*** system, one of the pathways for uptake of FOM. They were sensitized to FOM by D- ***glucose*** -6-phosphate because of the induction of hexose phosphate ***transport*** system, another uptake pathway.

L171 ANSWER 228 OF 284 MEDLINE DUPLICATE 107

AB The bacterial ***phosphotransferase*** system (PTS) catalyzes the transfer of the phosphoryl group from ***phosphoenolpyruvate*** to its sugar substrates, PTS sugars, concomitant with the translocation of these sugars across the bacterial membrane. The phosphorylation of a given sugar requires four proteins, two general proteins, Enzyme I, and the histidine-containing phosphocarrier protein of the PTS (HPr), used for all sugars, and a pair of proteins specific for that sugar, designated an Enzyme II complex. The ***phosphotransferase*** system has been implicated in regulating the induction of synthesis of some catabolic enzyme systems required for the utilization of sugars that are not substrates of the ***phosphotransferase*** system, and this and the accompanying reports are concerned with this phenomenon in Salmonell typhimurium and Escherichia coli. Mutants defective in Enzyme I (ptsI), HPr (ptsH), and certain Enzymes II were isolated, and their abilities to ferment and grow on a wide range of sugars and other compounds were determined. The mutants showed the expected properties on PTS sugars, but in addition, ptsH and tight ptsI mutants were unable to utilize certain non-PTS sugars, including maltose, melibiose, glycerol, glycerol-P, mannose-6-P, and, in E. coli, lactose. Leaky Enzyme I mutants could utilize these carbohydrates, but were unable to use them in the presence of a PTS sugar such as methyl alpha-D-glucopyranoside. In accord with the results reported by other laboratories, the inability of the mutants to utilize the non-PTS sugars was explained by the fact that these cells could not be normally induced to synthesize the corresponding catabolic enzyme systmes. This phenomenon is designated PTS-mediated repression. PTS-mediated repression was also observed in wild type cells, but by comparing wild type and leaky pts mutants it was shown that the sensitivity to repression by PTS sugars was greatest in mutants containing the lowest levels of Enzyme I or HPr. Furthermore, ptsI mutants containing a second site mutation in a gene for an Enzyme II were not repressed by the sugar substrate of that Enzyme II, although repression by other PTS sugars was not affected. ***Transport*** and other studies further indicated that neither appreciable uptake nor metabolism of the PTS sugars was required for these compounds to effect repression. The ptsH mutants showed the same phenotypic properties as the ptsI mutants with some important exceptions. First, they could ferment and grow on a PTS sugar, fructose. Second, after growth on fructose, (and to a lesser extent on ***glucose*** or mannose), such mutants were capable of utilizing other PTS sugars for a few generations. Third, growth of the ptsH mutants on fructose relieved PTS-mediated repression; after growth on fructose, but not on lactate, the mutants could grow for several generations on non-PTS sugars. Preliminary experiments indicated that growth on fructose resulted in the formation of one or more proteins that could substitute for HPr in the utilization of both PTS and non-PTS sugars.

L171 ANSWER 232 OF 284 MEDLINE DUPLICATE 110

AB Three classes of ***phosphotransferase*** system ***mutants*** in Salmonella typhimurium were selected through their resistance to 3-deoxy-3-fluoro-D- ***glucose*** (DFG). Strains with mutations in the ptsH (HPr) and/or pts I (enzyme I) genes were selected on medium containing lactate plus DFG. Strains with mutations in ptsH but not pstI were selected on medium containing fructose plus DFG. Clones isolated from fructose plus DFG semisolid plates and selected

for ability to swarm were mutant in either ptsH or ptsG. Mutants of the latter class were defective in enzyme IIB', a membrane component of the ***glucose*** ***transport*** system. Some pleiotropic properties of one representative ptsG mutant are described.

L171 ANSWER 233 OF 284 MEDLINE DUPLICATE 111

AB Selection for resistance to the antibiotic fosfomycin (FOS; L-cis 1,2-epoxypropylphosphonic acid, a structural analogue of phosphoenolpyruvate) was used to isolate mutants carrying internal and extended deletions of varying lengths within the ptsHI operon of Salmonella typhimurium. Strains carrying "tight" ptsI point mutations and all mutants in which some or all of the ptsI gene was deleted were FOS resistant. In contrast, strains carrying ptsH point mutations were sensitive to FOS. Resistance to FOS appeared to result indirectly from catabolite repression of an FOS ***transport*** system, probably the sn-glycerol-3-phosphate ***transport*** system. Resistant ptsI mutants became sensitive to FOS when grown on D- ***glucose*** -6-phosphate, which induces an alternate ***transport*** system for FOS, or when grown in the presence of cyclic adenosine 3',5'-monophosphate. A detailed fine-structure map of the pts gene region is presented.

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AB Strain 1050, a ***mutant*** of V. parahaemolyticus lacking a component of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system (PTS), did not utilize ***glucose*** and trehalose as a C and energy source. It was also defective, either totally or partially, in the utilization of a no. of other C sources: mannose, mannitol, galactose, maltose, L-arabinose, ribose, glycerol, pyruvate, and succinate, but these defects could be overcome by adding cyclic AMP to the medium. Cyclic AMP did not restore the utilization of ***glucose*** and trehalose. Growth of the mutant on fructose was apparently normal, regardless of the presence of exogenous cyclic AMP. Two different types of revertants were obtained from strain 1050, and their representatives were designated strains 1050R and 1050A, resp. The former strain seemed to be a true revertant, because PTS activity detd. with methyl-.alpha.-D-glucoside as the substrate, as well as the utilization of all the C sources mentioned above, was restored in this strain. Strain 1050A was selected for its ability to metabolize galactose. It remained unable to phosphorylate methyl-.alpha.-D-glucoside. It failed to grow on ***glucose*** and trehalose, but grew normally on all the other C sources, including galactose.

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AB Many pleiotropically carbohydrate-neg. ***mutants*** lacking components of the ***phosphoenolpyruvate*** :sugar ***phosphotransferase*** system (***PEP*** .cntdot.PTS), i.e., pleiotropic PTS- ***mutants*** , of V. parahaemolyticus were isolated by the methyl-.alpha.-D-glucoside screening method. As expected from the selecting procedure, all the mutants isolated were deficient in the utilization of ***glucose*** as the C and energy source. Their patterns of pleiotropy for the utilization of the other 8 carbohydrates, however, were strikingly different from 1

another. Some of the metabolic defects of the mutants could be overcome by supplementing cyclic AMP (cAMP) to the medium. Therefore, such metabolic defects might be due not to any defect in the PTS-mediated phosphorylation of carbohydrates, but to an insufficient supply of cAMP to induce certain enzymes involved in metab. of the sugars. A similar finding has been reported in PTS-mutants of Escherichia coli. On the other hand, the pleiotropic patterns of the V. parahaemolyticus mutants were still heterogeneous even in the presence of exogenous cAMP. Therefore, .gtoreq.3 different types, B, C, and D, of mutants were recognized. Mutants of type B were defective in the utilization of 5 carbohydrates, ***glucose*** , trehalose, fructose, mannose, and mannitol, whereas mutants of type D could utilize fructose normally, and mutants of type C were lacking only in the utilization of ***glucose*** and trehalose when cAMP was present in the medium. A possible interpretation for this phenomenon is that the ***PEP*** .cntdot.PTS of the organism has .gtoreq.3 protein components, which are common to the PTS-mediated phosphorylation reaction for >2 carbohydrates.

L171 ANSWER 249 OF 284 EMBASE COPYRIGHT 1996 ELSEVIER SCI. B.V.
AB Studies on the reversion characteristics of E. coli strains carrying various mutations in the pts region have led to the recognition of a mutation, suc 1, with a previously undescribed phenotype. Strains carrying the suc 1 mutation grow normally on most sources of carbon but are unable to utilize succinate effectively. The suc 1 mutation can be separated genetically from the tightly linked ptsI6 mutation. Reversion of suc 1 mutants for growth on succinate yields interesting classes of suppressor mutations.

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AB The E. coli mutants K 2.1.22a and R5s lacked the component of the ***phosphoenolpyruvate*** -dependent ***phosphotransferase*** system which specifies the uptake of .alpha.-Me glucoside and most of the ***glucose*** taken up by wild-type organisms. ***Mutant*** R5s, however, had an inducible ***phosphotransferase*** system for ***glucose*** , Km .apprx.10mM, enabling uptake of ***glucose*** when the latter was present at high concns.

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L171 ANSWER 17 OF 284 BIOTECHDS COPYRIGHT 1996 DERWENT INFORMATION LTD
AB The following are claimed: (1) production of a quinoid organic compound utilizing a readily available C-source e.g. ***glucose*** capable of being biocatalytically converted to 3-dehydroquinate (3-DHQ) as a starting material; (2) production of quinic acid by selecting an Escherichia coli AB2848aroD/pKD136 host cell capable of synthesizing DHQ, blocking 1 or more enzymatic reactions in a pathway of the host cell such that the conversion of DHQ to a different compound is prevented, provided however that the enzymatic reaction of DHQ to quinic acid is not blocked, optionally introducing into the host cell the ability to convert DHQ to quinic acid (if such ability is not already present in the host cell), and

increasing the ***flow*** of ***carbon*** into the pathway of the host cell; (3) a chromosomal or extrachromosomal genetic element comprising 1 or more copies of qad; (4) plasmid pTW6135 and plasmid pTW8090A; and (5) a genetic element comprising a tkt gene, an aroF gene, an aroB gene and a qad gene. The method can be used for the production of quinic acid, hydroquinone or benzoquinone (claimed). The quinic acid can be used to produce D-myoinositol-1,4,5-triphosphate or FK-506. (26pp)

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